



EN

Climax[®]

Installation instructions
Self-supporting aluminium profile system

Art.N° 36178


SKYLUX[®]
Hello daylight!

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 1 m 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's 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

- Always lift loads correctly: bend your knees, move your feet instead of forcing your spine, lift as close to your body as possible.
- Parts of more than 25 kg must be lifted with at least 2 persons.



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 Risk Analysis!

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

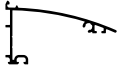
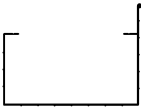



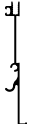

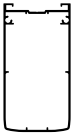


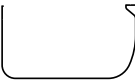

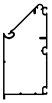


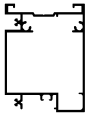
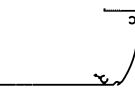
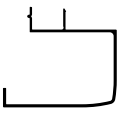

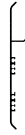


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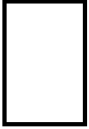

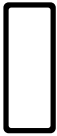


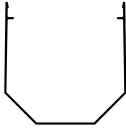

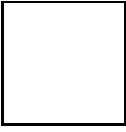







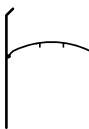


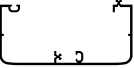

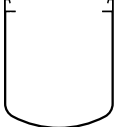
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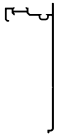












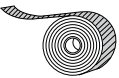


Overview of Climax profiles and parts

WALL					
	MT	WALL TOP		G120A	GUTTER 120 A
	MB	WALL BOTTOM		GR	RAISED PROFILE FOR GUTTER
	S1	HINGE	SUPPORTS		
	S2	HINGE		D1	SUPPORT
GUTTER				D2	SUPPORT
	G	GUTTER		D3	SUPPORT
	GI 0 GI 90 GI 120 GI 150 GI -90	INSIDE GUTTER FOR G CONNECTION FOR G OUTSIDE CORNER PIECE 90° OUTSIDE CORNER PIECE 120° OUTSIDE CORNER PIECE 150° INSIDE CORNER PIECE 90°		TP	THERMAL SUPPORT
	GD 1	GUTTER SUPPORT		TPG	THERMAL SUPPORT FOR GLASS
	GD 2	GUTTER SUPPORT		ZD	SIDE SUPPORT
	GD2C	COVER FOR GUTTER SUPPORT GD2		ZD2B	SIDE SUPPORT D2 CLIPS
	GDP	THERMAL BREAK GD2		ZDC	SIDE SUPPORT COVER 16, 25, 32 MM
	SB	HINGE BOTTOM		L432	L-FINISH SIDE SUPPORT L END PROFILE FOR GLASS



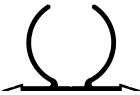














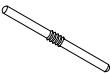


Overview of Climax profiles and parts

	L632	L END PROFILE FOR GLASS		PCB	POST CLIP BASE FOR P
	V642	STEEL TUBE 60X40X2 GALVA		98	POST 50/100
	V1044	STEEL TUBE 100X40X4		97A	POST CLIP BASE FOR POST CLIP WITHOUT COAT
	L16P	ALUMINIUM SIDE PROFILE 16, 25, 32 MM		97B	POST CLIP
	CL16	ALUMINIUM CLIP 16 MM		100	POST 100/100
	CL32	ALUMINIUM CLIP 25/32 MM	SEALS		
	CLL	SIDE CLIP 16, 25, 32 MM		C1CX	COEX SEAL FOR WALL TOP WHITE/ BLACK COEX SEAL FOR WALL TOP GREY/ BLACK
	CLSB	BASE SCREW-IN CLIP		C12	SUPPORT CORD FOR C1CX
	CLST	TOP SCREW-IN CLIP FOR 8 TO 34 MM		C2CX	COEX SEAL WHITE/BLACK FOR TP-TPG COEX SEAL GREY/BLACK FOR TP-TPG
	CLSL	TOP SCREW-IN SIDE CLIP		C5	SEAL (GREY) FOR SHEET SPACER OR SIDE SUPPORT
POSTS				C8	SEAL (GREY) FOR CL16, CL32 AND CLSB
	P	POST PART 110/50		CY10	SEAL (GREY) FOR CL16, CL32 AND CLSB FOR GLASS
	PC	POST CLIP FOR P			










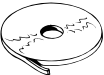

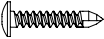
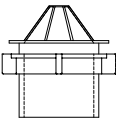

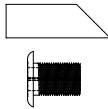

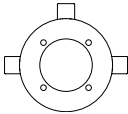



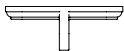
Overview of Climax profiles and parts

	C11CX	COEX SEAL FOR GUTTER/RIDGE WHITE/BLACK		U16P	REINFORCED PVC END PROFILE 16 MM WHITE
	C31	SUPPORT SEAL FOR GLASS		U25P	REINFORCED PVC END PROFILE 25 MM WHITE
ACCESSORIES					
	A1	SPACER A1		U32P	REINFORCED PVC END PROFILE 32 MM WHITE
	A2	SPACER A2		U16A	ALUMINIUM END PROFILE 16 MM
	GVT	TOP PROFILE FOR GLASS CONNECTOR		U32A	ALUMINIUM END PROFILE 32 MM
	GVB	BOTTOM PROFILE FOR GLASS CONNECTOR		U16	PRE-DRILLED ALUMINIUM END PROFILE 16 MM
	Y10	ADAPTOR PROFILE 8 MM FOR 10 MM SHEET		U32	PRE-DRILLED ALUMINIUM END PROFILE 32 MM
	Y25	ADAPTOR PROFILE 9 MM FOR 25 MM SHEET		BT16	CLOSED PLASTIC TAPE 10 AND 16 MM WITH GUARANTEE
	Y32	ADAPTOR PROFILE 15 MM FOR 32 MM SHEET		BT25	CLOSED PLASTIC TAPE 25 MM WITH GUARANTEE
	Y16A	RAISED PROFILE ALUMINIUM 16 MM		BT32	CLOSED PLASTIC TAPE 32 MM WITH GUARANTEE
	Y16P	THERMAL BREAK ABS 16 MM		BB16	PERFORATED PLASTIC TAPE 16 MM WITH GUARANTEE

Overview of Climax profiles and parts

	BB25	PERFORATED PLASTIC TAPE 25 MM WITH GUARANTEE		GAP1	THERMAL END PANEL FOR GD1
	BB32	PERFORATED PLASTIC TAPE 32 MM WITH GUARANTEE		GAP2	THERMAL END PANEL FOR GD2
	K	STRAIGHT CONNECTOR		GRS1	GUTTER SLIDE END FOR GR ON G120A
	S163	STOP 16/3		GRS2	GUTTER SLIDE END FOR G+GD+GR
	S323	STOP 32/3		GRS3	GUTTER SLIDE END FOR GD2 + G + GR
	S383	STOP 38/3 FOR GLASS		GDCA	SLIDE END FOR GD2C
	ZDCS	END PIECE FOR SIDE SUPPORT COVER		LOGO	OVERFLOW COVER FOR GUTTER SLIDE END
	GAS1	GUTTER SLIDE END FOR G+GD		MAS	WALL SLIDE END FOR MT+MB
	GAS2	GUTTER SLIDE END FOR GD		NASZ	RIDGE SLIDE END SADDLE ROOF
	GAS3	GUTTER SLIDE END FOR GD2 + G		909	CONNECTING PIN
	G120AS	GUTTER SLIDE END FOR G120A		GDC	SUPPORT BRACKET FOR GUTTER SUPPORT

Overview of Climax profiles and parts

	NCZ	SUPPORT BRACKET FOR SADDLE ROOF RIDGE		8424	END-PIECE FOR THREADED BAR
	PV	BASE PLATE FOR POST		8426	EYE BOLT M10 x 50
	PU	U-TOP, BOTTOM FOR POST P AND BASE PLATE PV		8421	TUBE PULLER SET
	BMR	STAINLESS STEEL BOLT, NUT AND SPRING RING M8		94567	PVC DRAUGHT PROFILE WITH EDGE FOR 8-10 MM GLASS
	UT10	U-TOP, BOTTOM FOR POST 100 AND BASE PLATE PV		94664	ROLL ONE-SIDED ADHESIVE FOAM TAPE 20 x 30 MM (5 M)
	UT98	U-TOP, BOTTOM FOR POST 98 AND BASE PLATE PV		ZSB ZSG ZSC	5,5 x 32 mm (TX 25) SELF-DRILLING STAINLESS STEEL SCREW (NON-COATED) SELF-DRILLING STAINLESS STEEL SCREW (COATED) SELF-DRILLING STAINLESS STEEL SCREW WITH SEALING
	GC	OUTLET + SWIVEL Ø 80 mm		SCR.002 ZSB 82416	5,5 x 25 mm (TX 25) GALVANISED FOR FIXATIONS THROUGH STEEL PROFILES
	BUGS WUGS	UNIVERSAL GUTTER SPOUT + OUTLET GUTTER SPOUT		6,3 x 25	SELF-DRILLING SCREW 6,3 x 25 mm
	8423	CENTRAL DRAWING RING		PS48	PARKER STAINLESS STEEL SCREW 4.8 x 25 mm
	8420	CENTRAL ROSETTE COVER		PST	PARKER SCREW 4.8 x 13 mm
	8425	RIDGE FIXATION			

General installation tips

Please read this manual carefully.

The installation must be carried out by people with sufficient technical knowledge and experience in the area of conservatory installation. 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. a 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.

Fixing material

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 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 liable 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, C11CX and C31 seals are push-in seals.

Slide seals C1CX and C5 are slid into the profiles.

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 guarantee 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. Deviations are not permitted without the written permission from the manufacturer. 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 pages 76 - 80 are only indicative. Contact the manufacturer, architect or engineering consultant for porch roofs outside the normal range.

The manufacturer reserves the right to make technical changes without prior verbal or written notification.

Skylux reserves the right to change this manual without prior notification. Changes with regard to the installation requirements or to 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.be.

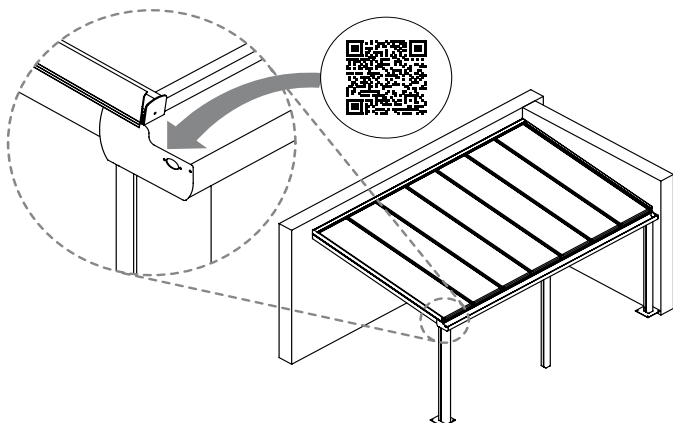
Climafast

The CLIMAFast calculation application, free of charge by Skylux. 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 roof. An overview of profiles, lengths, parts, permitted loads, etc. is provided for each project. The aim of this application is to inform the user.

Skylux reserves the right to change the Climafast calculation application without prior notification. The results of the calculations are not final and will not mean that there is a right to compensation. The latest version of the calculation application can always be downloaded from www.skylux.be.

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.

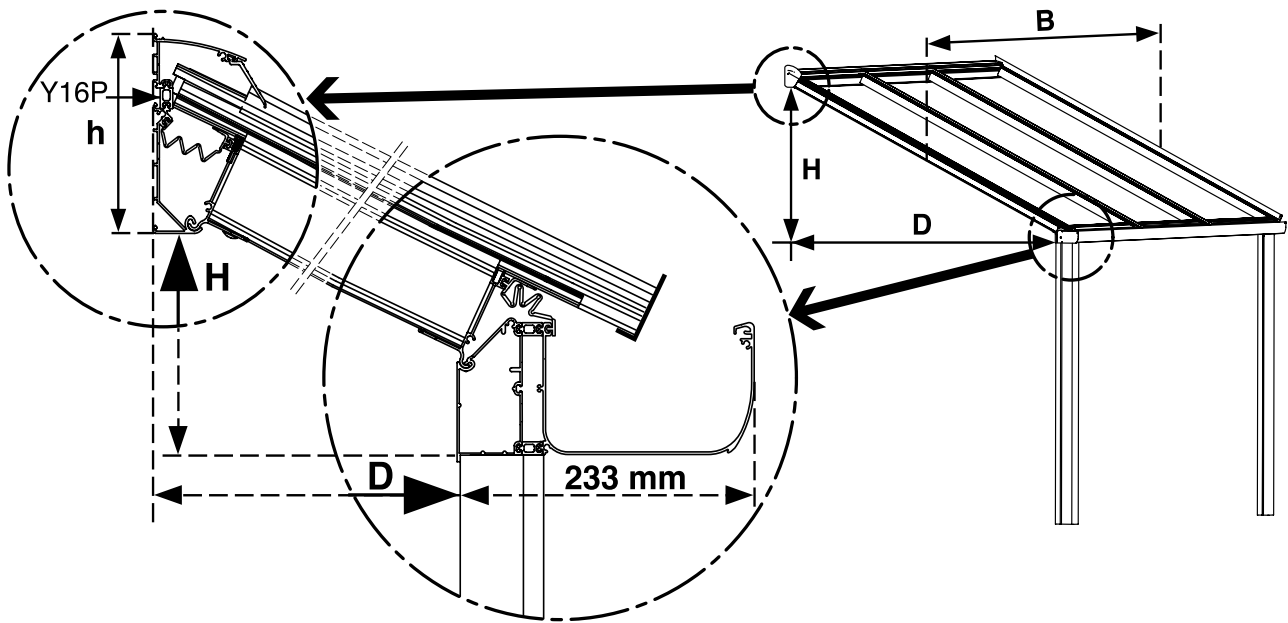


Measuring your Climax pitched roof

Measurement

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 angle of gradient where 1 or multiple thermal bridges are to be slid in.

Number of Y16P in relation to the sheet thickness and angle of slope									
Sheet thickness (mm)	0-16		17-25				26-34		
Slope °	5-35	36-45	5-20	21-35	36-40	41-45	5-30	31-34	41-45
Number of 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 (Fig. 2, page 13)

Measure from the wall to the inner side of the support post or the window under gutter support GD1/GD2 to determine roof depth D. The additional depth of gutter G + Y16P + gutter support GD is 233 mm for a Climax thermal bridge. The depth for a Climax without a thermal bridge with gutter support GD1 or GD2 is 225 mm.

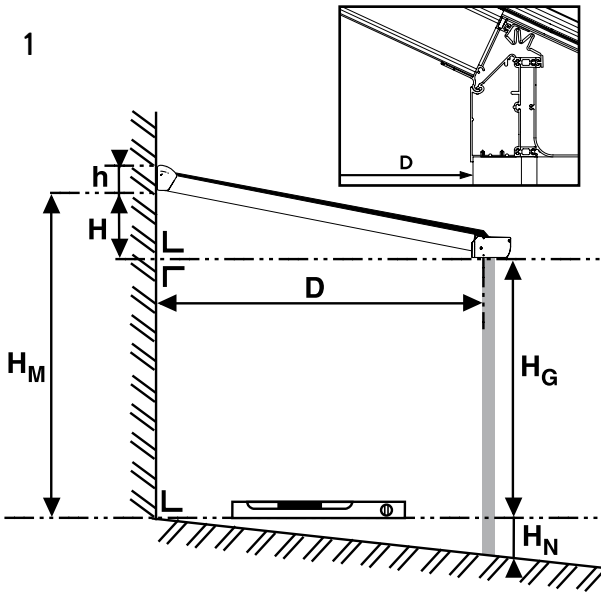
Determine the width B (Fig. 2, page 13)

Width B of the Climax is the distance between the outer side of the side supports ZD. An additional 12 mm per side support must be added for applications with a side support cover ZDC. The total conservatory width with 2 ZDCs is, therefore, 24 mm wider. If the Climax is installed between two walls and a gutter with screwed-on gutter end pieces is used, you can deduct 5 mm 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.

Measuring your Climax pitched roof

1



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.

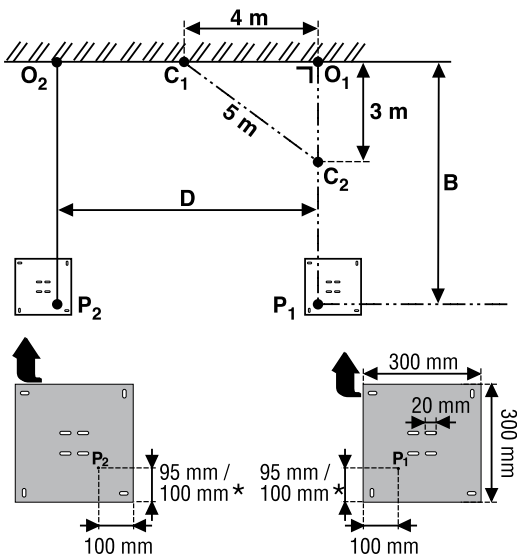
H_N = The slope of your veranda floor.

$H_G + H_N$ = Installation height for the bottom side of gutter support GD1 or GD2. This is also the height for the windows or the length of the posts.

$$H = H_M - H_G$$

h = Wall profile height

2

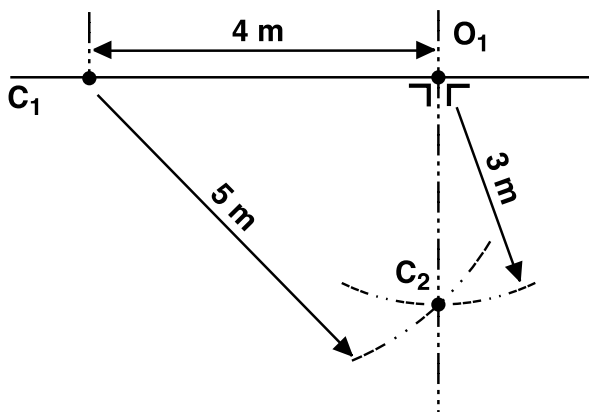


Installing the Climax post and the Climax PV base plate.

- Determine point O_1 .
- 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 P_2 .
- 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 20 mm either way to allow proper adjustment.

* 95 mm in combination with post P /
100 mm in combination with post 98 or post 100

3



The 3/4/5 rule.

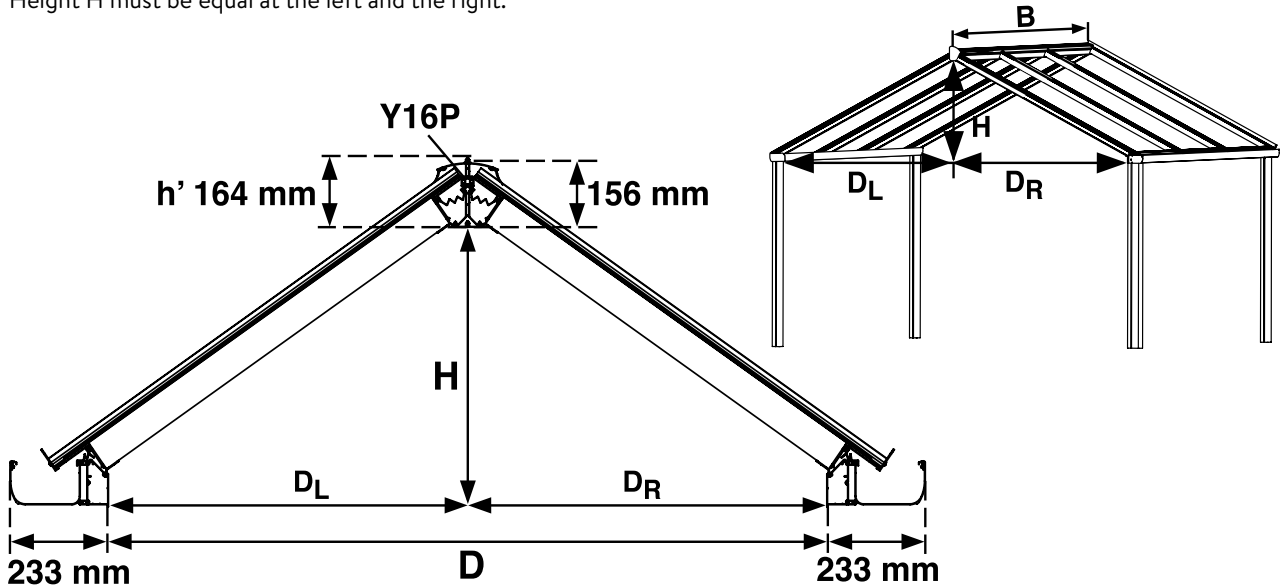
- Determine the auxiliary point C_1 based on O_1 at a distance of 4 metres
- Use a 3 metre string and a piece of chalk to draw a circle from point O_1 .
- Use a 5 metre string to draw a circle from point C_1 .
- The 2 circles intersect at C_2 .
- Line $O_1 - C_2$ should be at a perfect right angle to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

Measuring your Climax saddle roof

Measurement

The ridge of the saddle 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 angle of gradient where 1 or multiple thermal bridges are to be slid in.

Number of Y16P in relation to the sheet thickness and angle of slope									
Sheet thickness (mm)	0-16		17-25				26-34		
Slope °	5-35	36-45	5-20	21-35	36-40	41-45	5-30	31-40	41-45
Number of 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 (Fig. 2, page 13)

Measure the distance from support post P or the windows that will be installed under gutter supports GD1/ GD2 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 6 m. The additional depth of gutter G + Y16P + gutter support GD equals 233 mm for Climax with a thermal bridge. The depth with gutter support GD1 or GD2 is 225 mm for Climax without a thermal bridge.

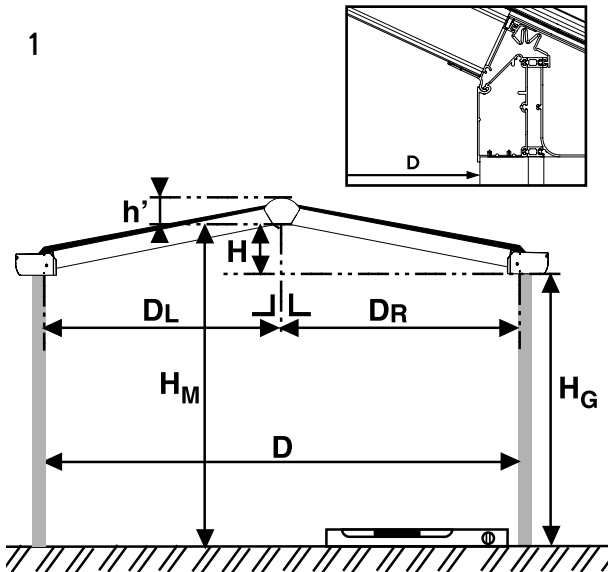
Determine the width B (Fig. 2, page 13)

Width B of the Climax is the distance between the wall and the exterior of the side support. An additional 12 mm must be added for applications with a side support cover ZDC. The total conservatory width with 2 ZDC is, therefore, 12 mm wider. If the Climax saddle roof is installed between two walls and a gutter with screwed-on gutter end pieces is used, you can deduct 5 mm 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.

Measuring your Climax saddle roof

1



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

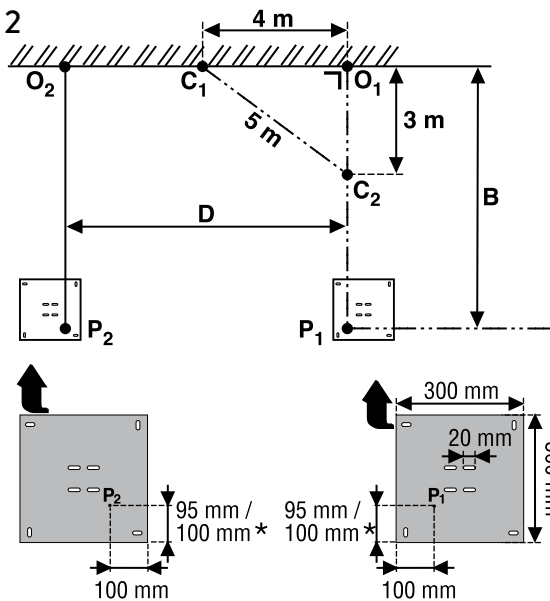
H_M = Height between the floor and the bottom side of the ridge to wall bottom MB measured at the back against the wall.

H_G = Installation height of the bottom side of gutter support GD1 or GD2. This is also the height for the windows or the length of the posts.

$$H = H_M - H_G$$

h' = Saddle roof wall profile height

2

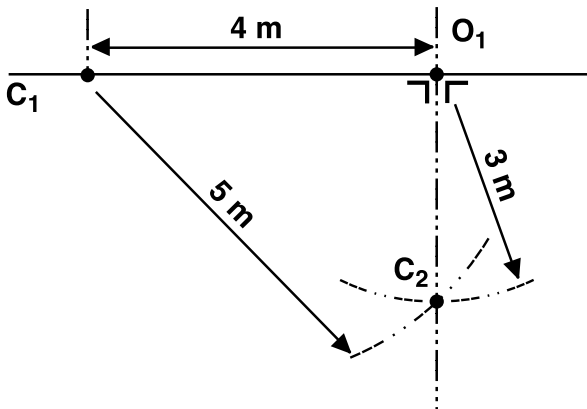


Embedding the Climax post and the Climax base plate PV.

- Select point O_1 .
- 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 P_2 .
- 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 20 mm either way to allow proper adjustment.

* 95 mm in combination with post P /
100 mm in combination with post 98 or post 100

3



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 O_1 .
- 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 $C_1 - O_1$).

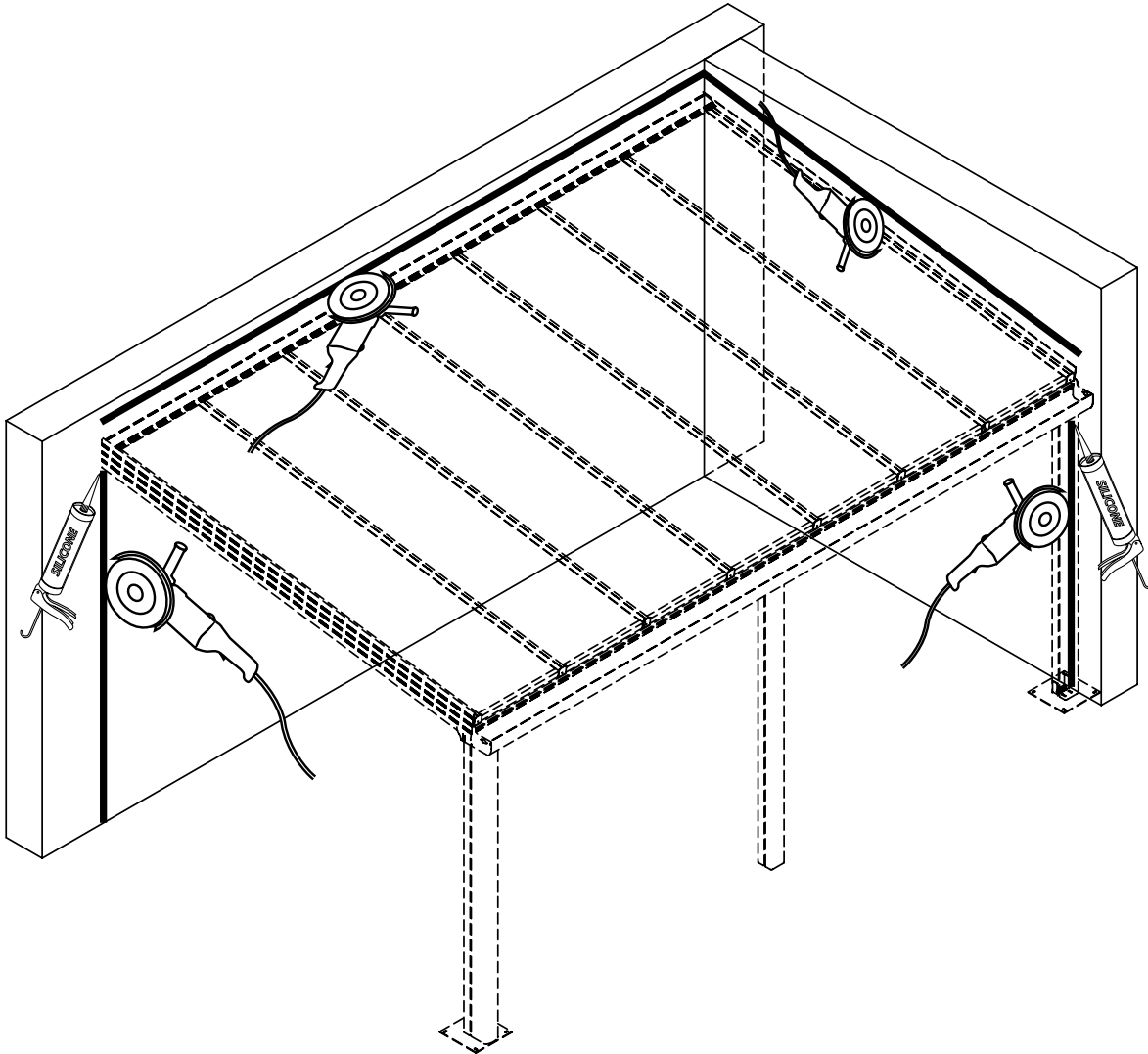
Preparation

The Climax roof can be delivered cut-to-size to reduce the installation time.
The seals and certain other components are, when possible, fixed onto or into the profiles for the preinstalled roof system.

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, etc.



Make a slot in the walls against which the conservatory roof is to be installed.
Install a lead slab or zinc flashing. We refer to page 10: Measuring your Climax pitched roof. Height = first joint above $HM + H$ and at most 60 mm above the wall profile.
For structures with a thermal bridge (for example, a closed veranda) we recommend making a slot in the walls where the profile can be installed.

Floor

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

Precautions

Protect the finished profiles against scratches and dents during installation.

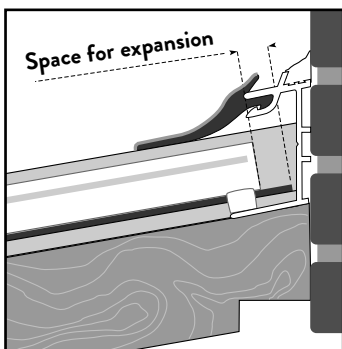
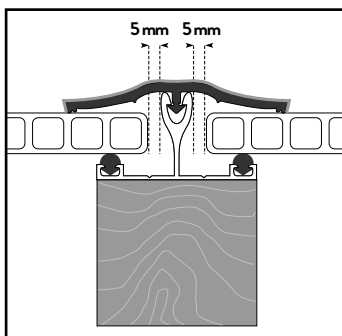
General tips and maintenance instructions

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 shrink when there are temperature fluctuations. The following tips should be taken into account:

- Ensure there is 5 mm clearance lengthwise for each sheet meter and ensure there is 10 mm clearance (5 mm on each side) widthwise, for example, a 3000 mm sheet must have a clearance lengthwise of 1.5 cm.
- 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 shrinkage 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. Purchase silicone types that are safe for polymethyl methacrylate or polycarbonate products (guarantee certificate).
- The fumes from this putty 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. Use only approved seals.
- Do not use black or dark-coloured seals to prevent heat accumulation.
- A lead slab may be placed on the seals but may not 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.

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.

- Clean the surfaces/profiles min. 1 a year with cold water and a mild soap. Rinse well with plenty of water. Never use solvents or abrasives!

A good cleaning is necessary to avoid the profiles from growing dull and dirty by the UV light!

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.

- 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 500 N/m² or 750 N/m², respectively (see the technical plastic sheets information sheet).

- Pergotop/Pergotop-soft sandwich panels are only adapted in combination with Skylux screwable clips.

- 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 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 10 mm 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 120 mm 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 heat-stop 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.

5. GLASS

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

6. DRAINAGE AND CONDENSATION

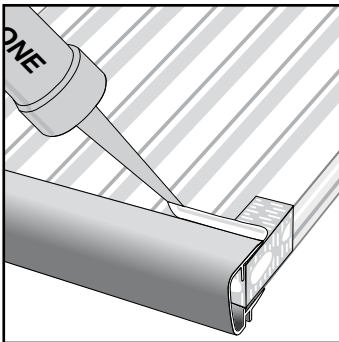
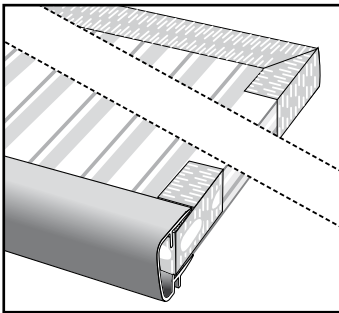
Dust and damp may not enter into the cell structure:

- 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 > 45µm from entering the cell structure.

- The underside is provided with a perforated aluminium filter tape. To protect the tape, use the U16P/U25P/U32P or a U profile with perforations of Ø 3.5 mm, installed every 20 cm.

- Seal the profile with synthetic friendly silicone to prevent water infiltration maximally.

- Wet the edge of sheets with no-drop layer and dry it afterwards before taping the sheet.



- Make sure that the bottom NEVER stands in water (moss and algae).

- Condensation in the canals is not 100% inevitable (physical phenomenon).

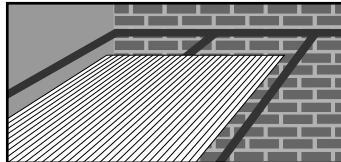
Acrylic and polycarbonate are very less gas- and dampproof. The characteristics of the material and the guarantee are not diminished because of this. An appropriate sealing is recommended.

7. SHEET DIRECTION

- Install the sheets with inclination or vertically, never horizontally (unless interior use).

- Minimum inclination: 10° (18 cm per meter) or more.

- The direction of the sheet canals must always go along with the roof inclination.



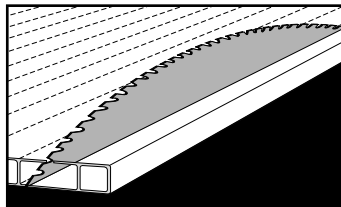
8. REFLECTION

- 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 AND DRILLING

- Always use a grease pencil to make notes on the protection film (felt pen is difficult to remove).

- To ensure a fast clamping during the sawing, you should always make sure that a raised rib is as near as possible by a sawed edge.

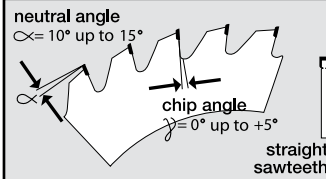


- When sawing, use a hard metal saw (widea) with high rotation speed. Saw slowly and by preference with one move. Use new or sharpened saw blades. Make sure the sides are always smooth.

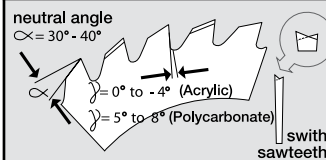
ATTENTION: The basis on which the sheets are sawn, must be stable and vibration-free. The sheets must not move during sawing. The saw blade must slightly reach out of the sheet.

- Type of saw blade:

1. hard metal (for ca 50 m/s)



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



- Remove all dust and sawing rests from the canals with pure compressed air or a powerful vacuum cleaner.

- Only remove the protection film after installation to avoid scratches.

- Drilling is strongly advised against. However, if unavoidable, provide with grooves (shrinking and dilatation).

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 sheets.

- 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:

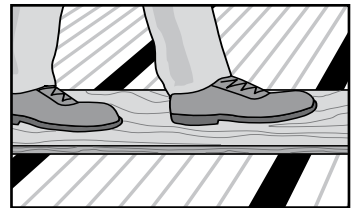
Do not put the sun protection directly on the sheet!

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

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 not 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 shrink and dilate under the influence of 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.

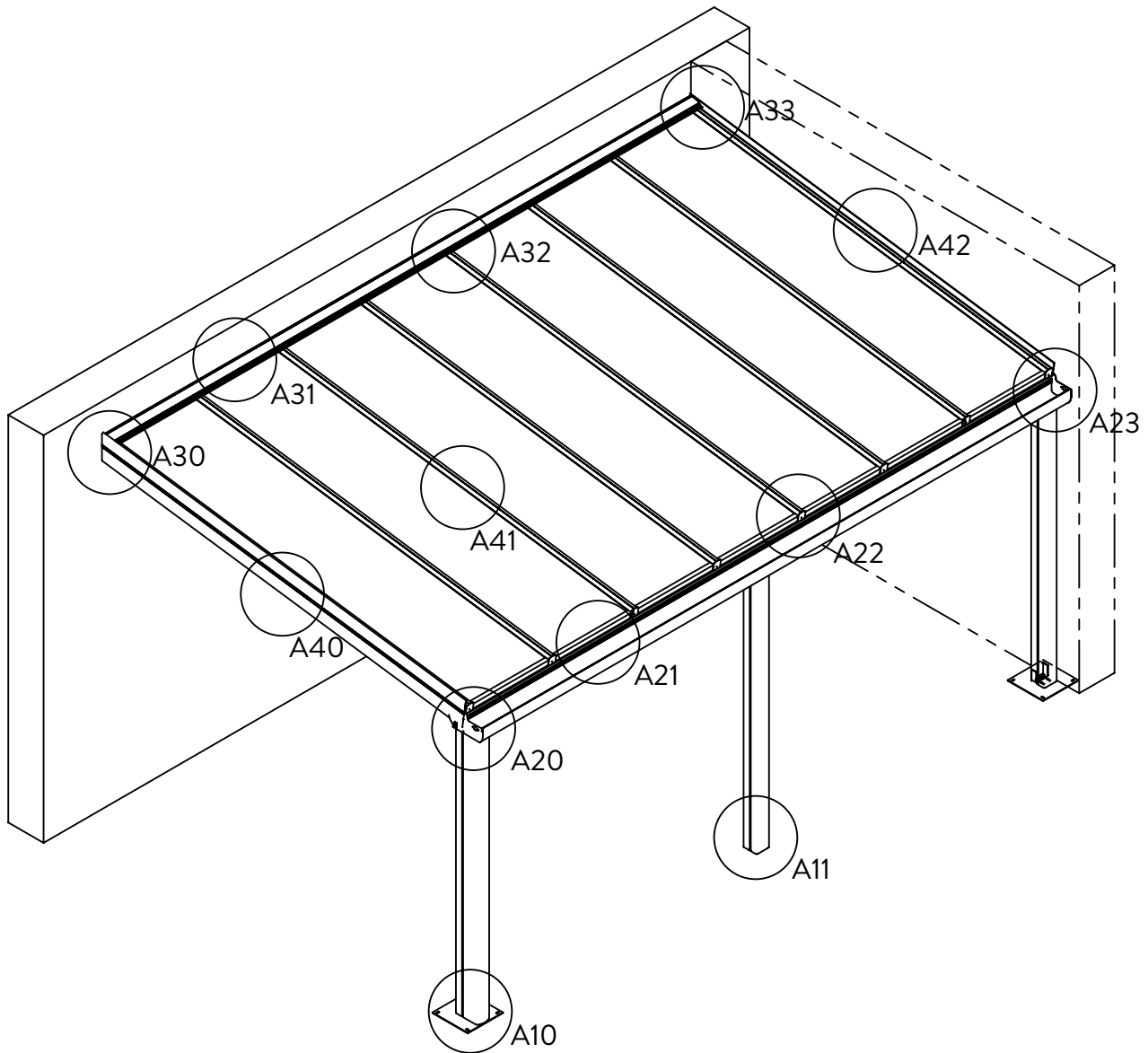
- Screwed clips cause more creak noises with synthetic sheets.

- If you would like to avoid crack noises, we advise you to always use the TP and TPH profiles. The TP can expand and shrink with the synthetic sheets or alu sandwich sheets.

15. FURTHER INSTRUCTIONS

- Only use sheets with identical production number per project to avoid colour differences.

Overview of the drawing of the conservatory roof without thermal bridge



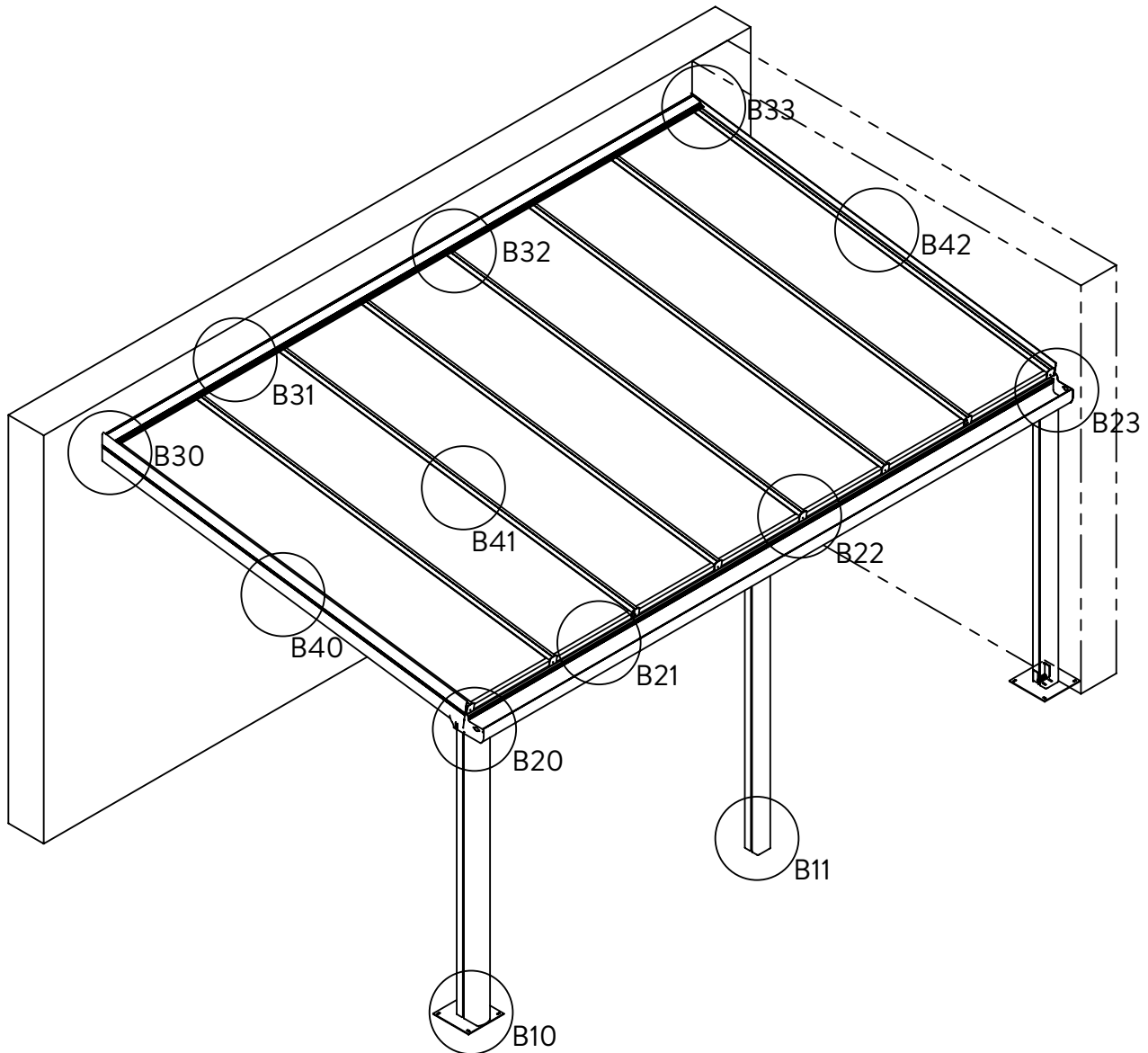
A10 - A11: Posts, page 22-23 / 44

A20 - A23: Gutters, page 24-28 / 41

A30 - A33: Wall profiles, page 29 / 32-33 / 40

A40 - A42: Supports and side supports, page 30-33 / 36-39

Overview of the drawing of the conservatory roof with thermal bridge



B10 - B11: Posts, page 43-44 / 67

B20 - B23: Gutters, page 45-48 / 65-67

B30 - B33: Wall profiles, page 50 / 55 / 65

B40 - B42: Supports and side supports, page 51-55 / 58-64

Installation tips for the Climax system **without thermal bridge**

Posts

Determine the length of the posts ($H_n + H_g$) in relation to the gradient and the position of the wall profile (HM). Specific instructions are applicable for posts in combination with gutter support GD2 (see page 81).

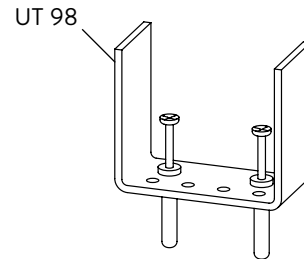
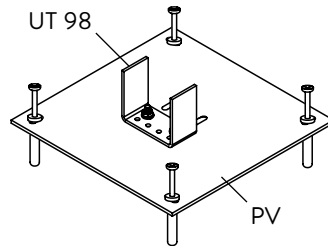
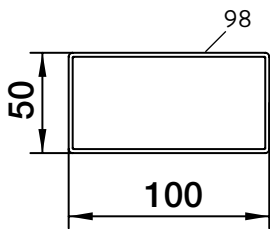
The following posts can be used for roofs without a thermal bridge:

Standard posts

accessories for the corner post
Base plate PV and U-shaped bracket

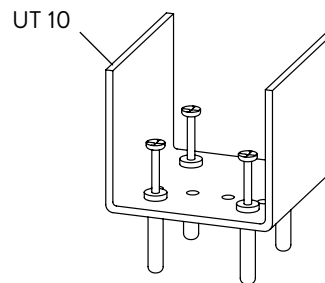
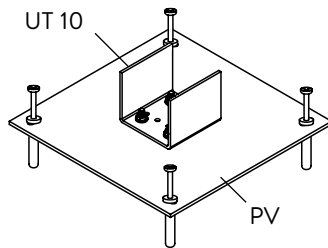
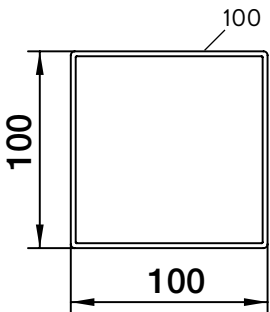
accessories for the intermediate post
U-bracket

Post 100/50

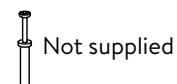
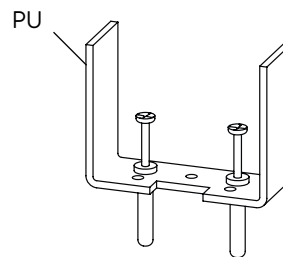
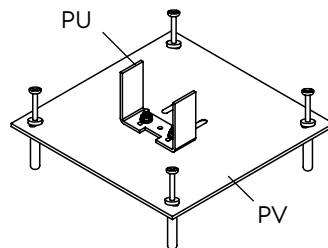
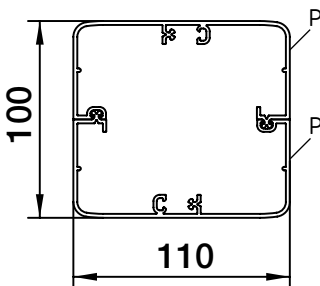


Post 100/100

(not combined with GD2)



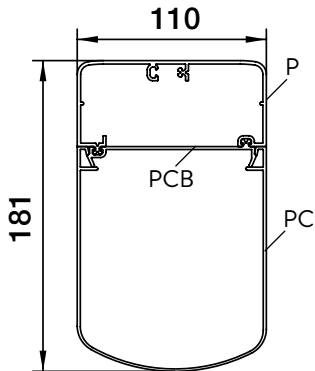
Post 110/100 (P + P)



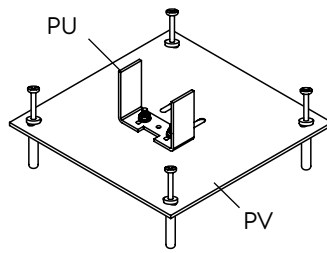
Posts

Posts with post clips for water discharge

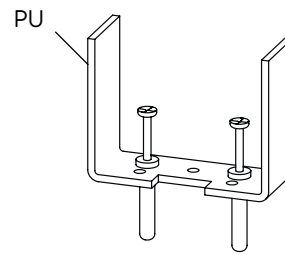
Post 181/110 (P + PCB + PC)



Accessories for corner posts Base plate PV and U-shaped bracket



Accessories for middle posts U-bracket



Bolt the U-bracket to the PV base plates (Fig. A) using the BMR screw set (Fig. B) for the corner posts. Determine the position of the PV base plates as indicated on page 13 and anchor these on a solid foundation in concrete using the suitable fixing accessories (not supplied). Position the U-bracket correctly on the base plate and fix it. The U-bracket for the middle posts can be installed without a base plate directly on a solid basis. Position the posts over the brackets. Position these perpendicularly (level) and shore these temporarily to ensure they do not fall over. The top part of all posts must be completely aligned and level. The length of the posts must be adjusted if the bottom of the gutter or gutter support with gutter is not flat (for example, with GD2). See page 81 for more information.

Fig. A

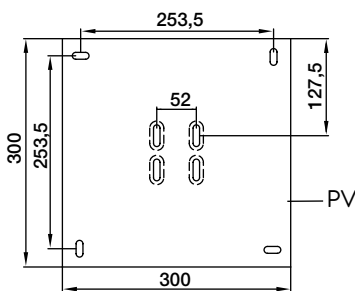
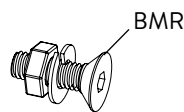


Fig. B



GUTTER BRACKET

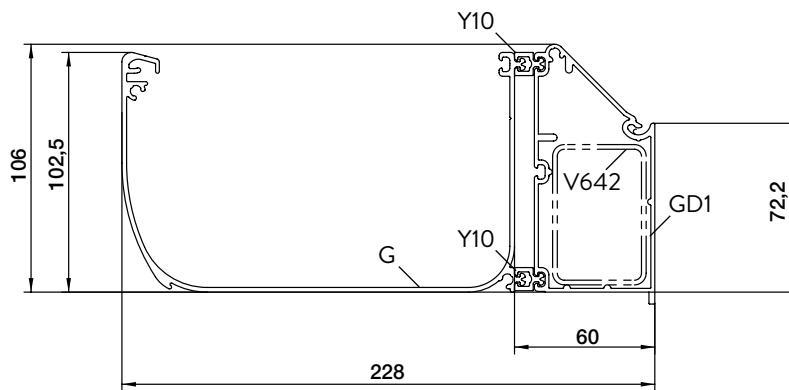
If the conservatory roof is limited by 1 or 2 walls on the sides, the gutter can be anchored to the wall with a gutter bracket; see page 27. Check whether the foundation and the walls on which the structure is to be anchored have a sufficient load-bearing capacity. The fixing material must be adjusted to the foundation and the load. Have an architect or consultancy agency assist you.

Gutter

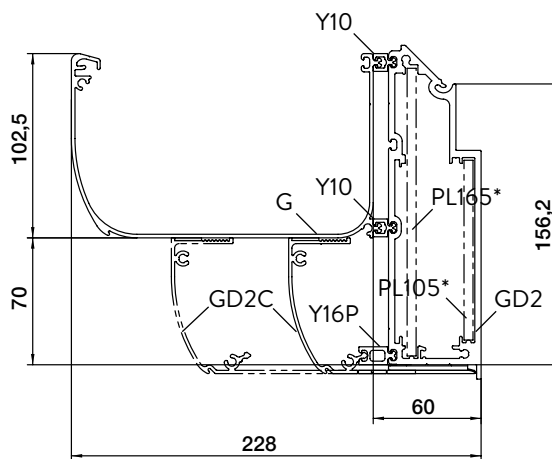
Multiple gutter combination options are possible with regard to the load and the required span for roofs without a thermal bridge. Use the load graphs on pages 77 - 80 or calculate using the Climafast calculation application:

Gutter combination (with reinforcement profile)

GD1 + G + Y10 (+ V642)



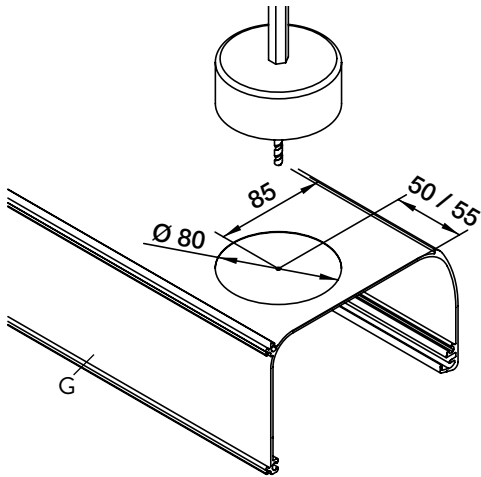
GD2 + G + Y10 (+ PL165* / PL105)



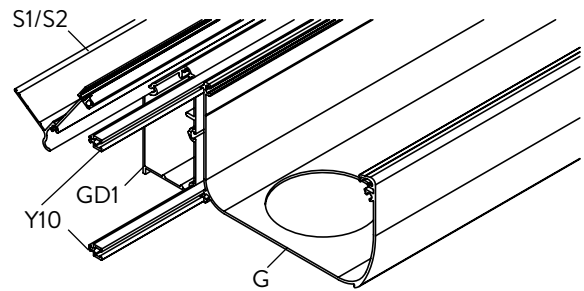
* The reinforcement profiles PL105 (100 x 5mm) are not supplied. This can be bought at any local hardware store. We recommend treating the reinforcement profiles with an anti-corrosion product.

Gutter GD1 + G + Y10

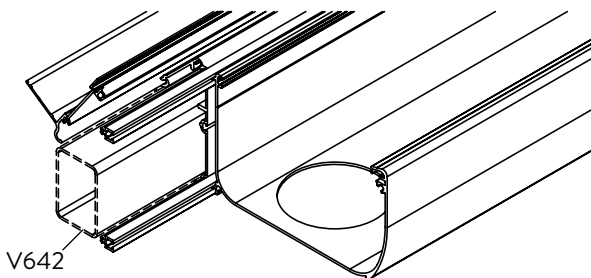
Assemble the gutter components to prepare for the installation of the gutter.



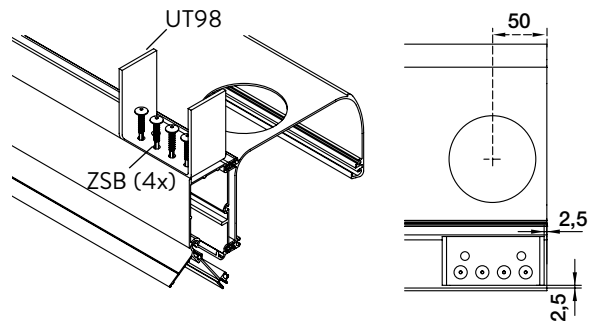
Cut out the opening for the water outlet.
Use a $\text{Ø } 80 \text{ mm}$ circular drill for this task.



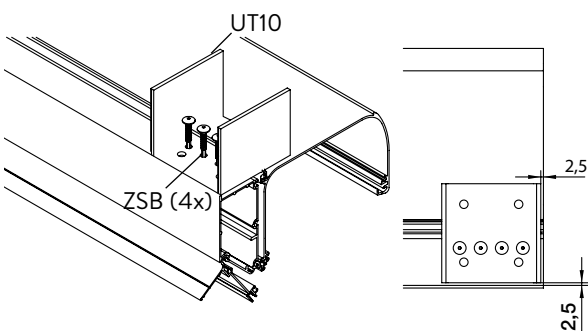
Connect the gutter (G) to the gutter support (GD1) using the Y10.
Slide in the hinge profile (S1 or S2).



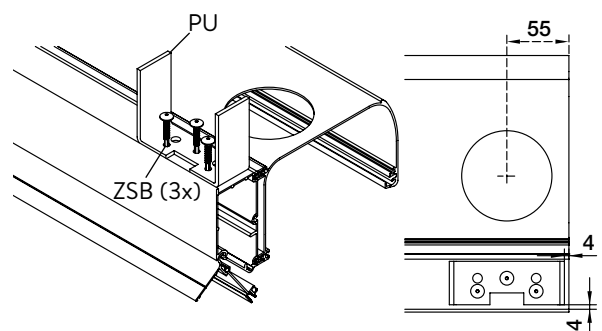
Slide in reinforcement profile V642 (optional).



Installation of U-bracket UT 98



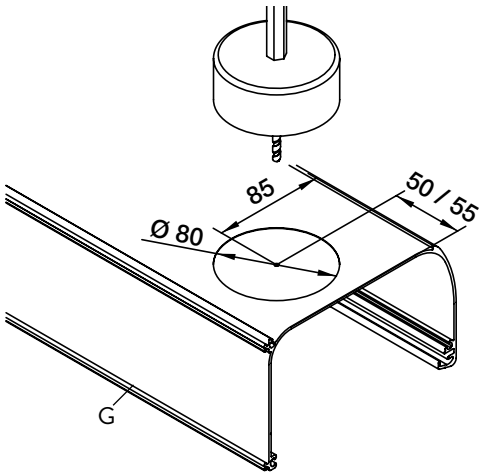
Installation of U-bracket UT 100
(not possible with the water outlet)



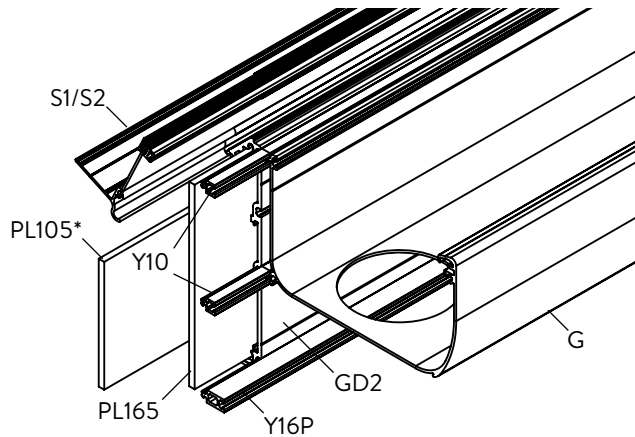
Installation of U-bracket PU

Gutter GD2 + G + Y10

Assemble the gutter components to prepare for the installation of the gutter.



Cut out the opening for the water outlet.
Use a $\varnothing 80$ mm circular drill for this task.

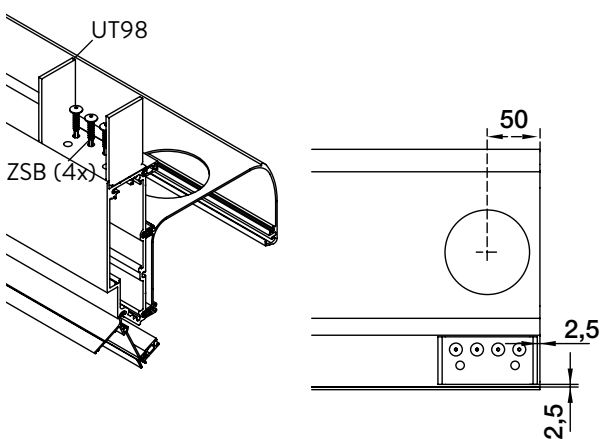


Connect the gutter (G) to the gutter support (GD2) using the Y10.

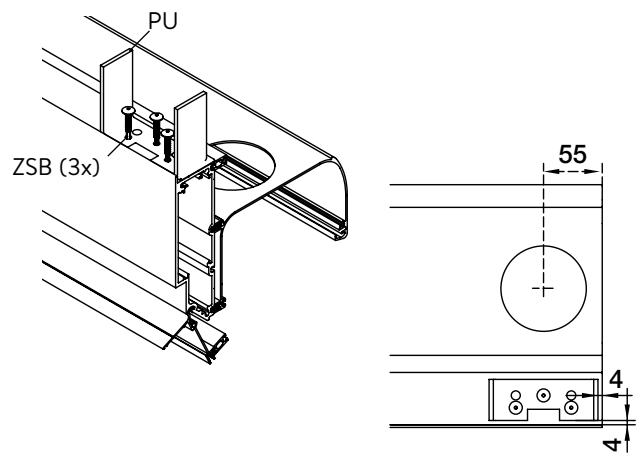
Slide in thermal bridge Y16P in the lowest detail of gutter support GD2. The length of Y16P matches the distance between the posts or the walls.

Slide in the hinge profile (S1 or S2).

Slide in reinforcement profile PL165 (optional) / PL105*.



Installation of U-bracket UT 98



Installation of U-bracket PU

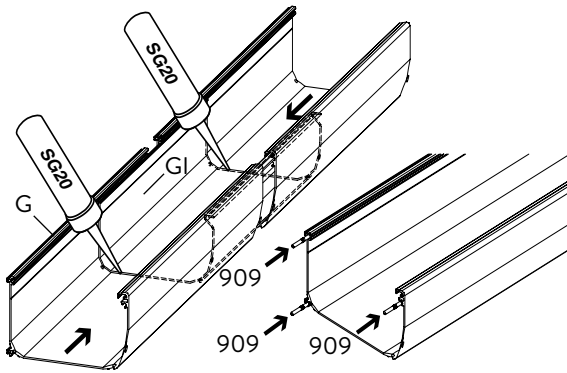
* The reinforcement profiles PL105 (100 x 5mm) are not supplied. This can be bought at any local hardware store. We recommend treating the reinforcement profiles with an anti-corrosion product.

Gutter

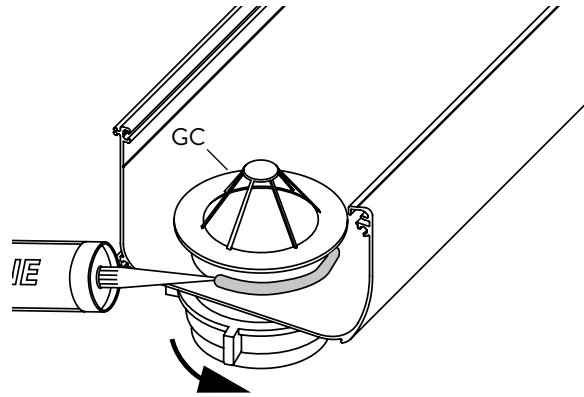
Multiple gutter elements can be connected to each other for gutter lengths > 7 metres. A gutter support must be installed at every gutter connection point. We recommend tilting the profiles and supporting the gutter support connections when using a gutter and gutter support (GD1.GD2) combination.

The gutter profiles can be linked using connection pins 909 and/or connector profile GI.

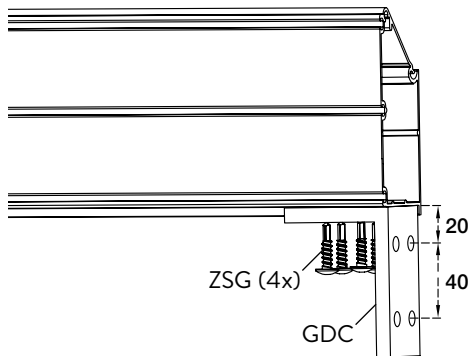
Use silicone glue SG20 as sealant.



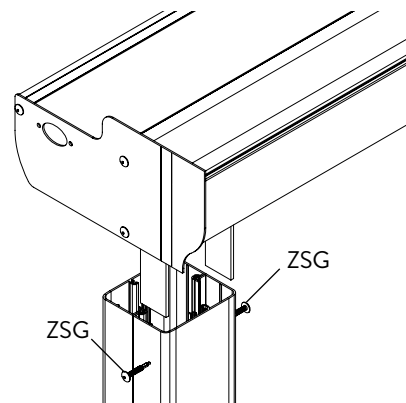
G + GI + SG20 + 909 (3x)



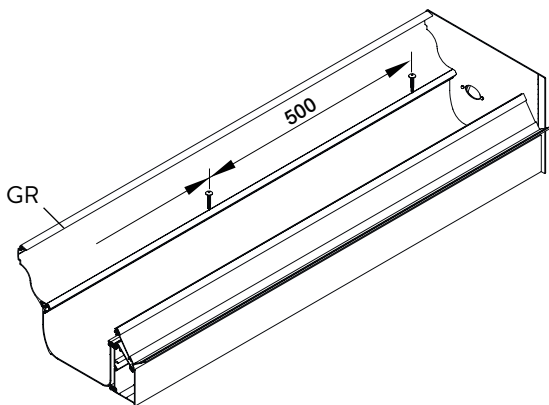
Install the outlet in the gutter opening and seal using silicone.



The gutter slide ends must be pre-installed using self-drilling ZGS screws if the gutter is installed between two walls (for example with a gutter bracket).



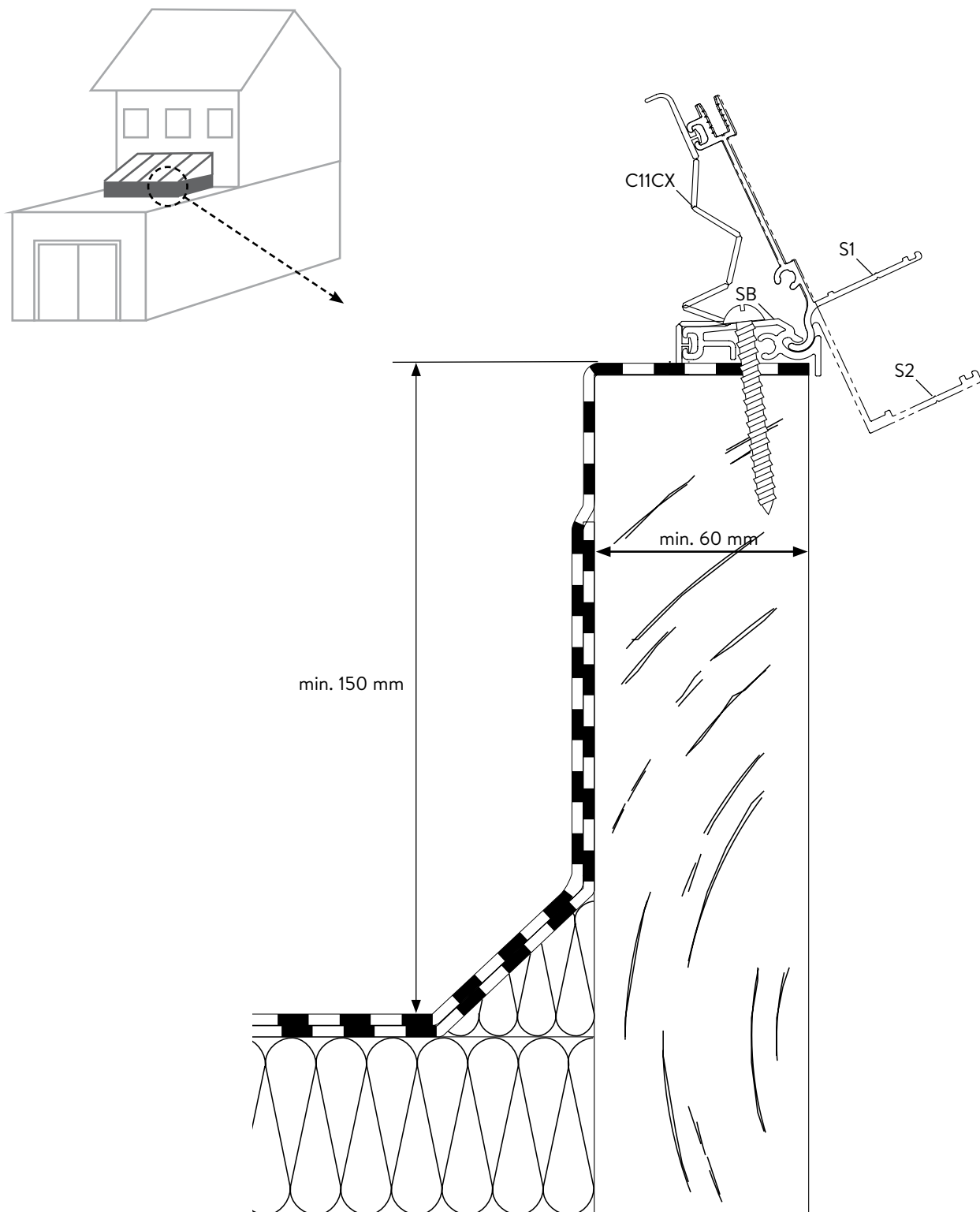
Place the pre-assembled gutter on the posts and fasten the structure using coated ZSG screws.



A raised profile GR can be installed on the gutter G. Position the side gutter slide ends first and subsequently fasten the GR profile on to the gutter every 500 mm.

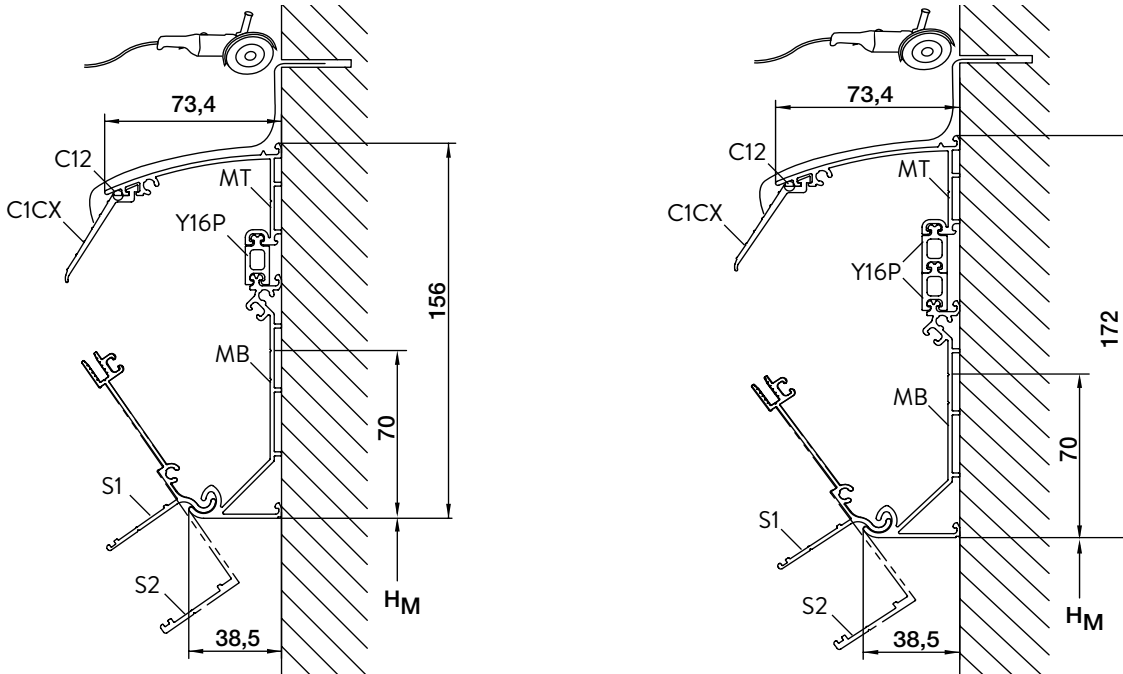
Gutter

The Climax system can be installed on a (roof) structure. The self-supporting gutter profiles must be replaced by non-self-supporting hinge profile SB for this. This profile is installed on a continuous upstand using adjusted fixing accessories to be provided by the customer. Seal C11CX must be installed according to the figure below to provide a watertight and windtight connection. The white side must be installed against the glazing.

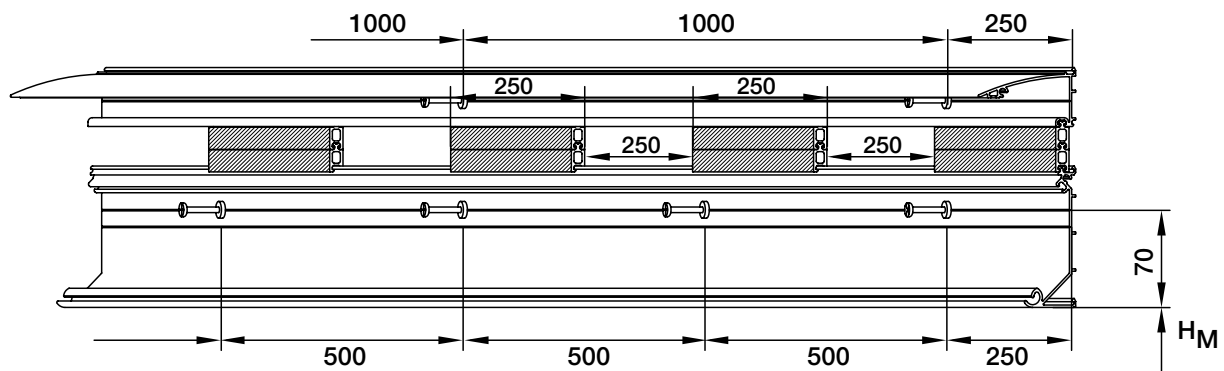


Wall profile

Parts



Preparation



Make a slot in the wall against which the conservatory roof must be installed (see page 16). Install a lead slab or zinc flashing. Drill a hole on the indicated line in the bottom wall profile MB at 250 mm from the ends and, subsequently, every 500 mm. The diameter of the hole should be selected depending on the selected fixing material. Repeat this every 1000 mm for the top wall profile MT. Slide seal C1CX in the opening of the top wall profile MT. Slide-in thermal bridges Y16P are used to fasten the bottom and top wall profiles. The thermal bridges must not be slid in continuously over the full length. A 250 mm length every 250 mm 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 on page 12).

Assembly

Fasten the assembled wall profile using the adjusted anchors. The holes in the bottom wall profile match height $HM + 70$ mm on the wall. Finish the top of the top wall profile MT with silicone and with a lead slab or zinc flashing built into the wall. Install hinge profile S1 or S2 in the bottom wall profile.

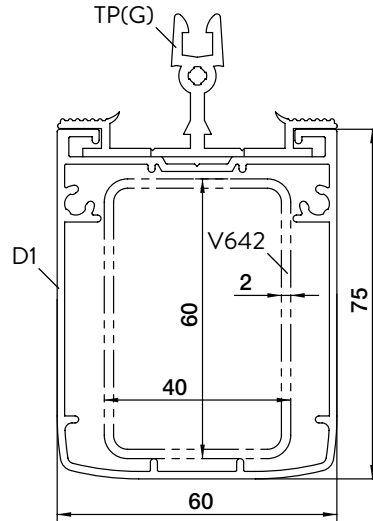
Rafters and side rafters

The following (side) supports are possible:

Sheet supports TP (white) are used for roofs with glazing plastics. Sheet supports TPG (green) are used for roofs with glass (single or double glazing). A steel reinforcement profile must be slid into the supports for a large span or an expected heavy snow load. Check the support length in relation to the glazing + snow and wind load (see the graphs of page 77 - 80 or use the Climafast calculation application.).

Support
D1 + TP(G)

Support with reinforcement
D1 + V642 + TP(G)

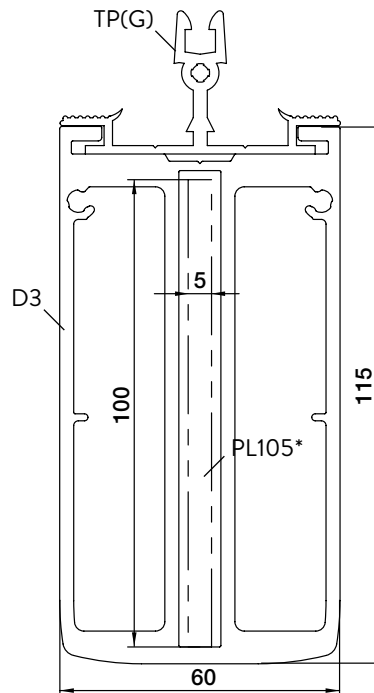
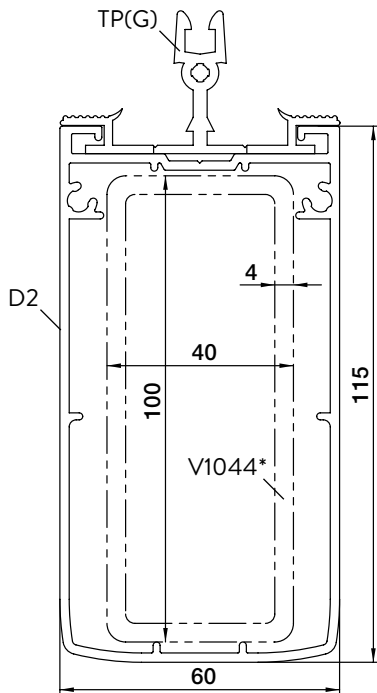


D2+ TP(G)

D2 + V1044* + TP(G)

D3+ TP(G)

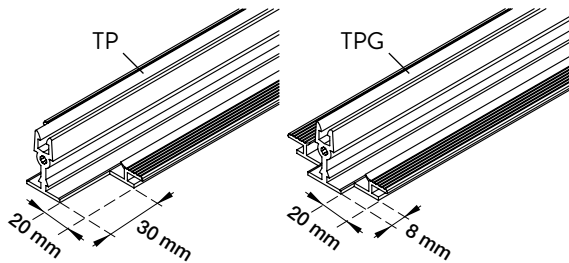
D3 + PL105* + TP(G)



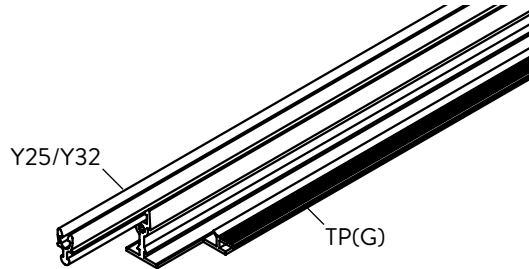
* Reinforcement profiles V1044 or PL105 are not supplied. They can be bought at any local hardware shop. We recommend treating the reinforcement profiles with an anti-corrosion product.

Rafters and side rafters

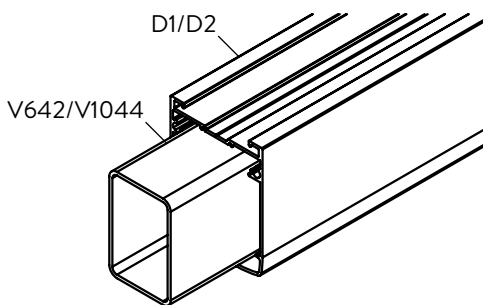
Preparation



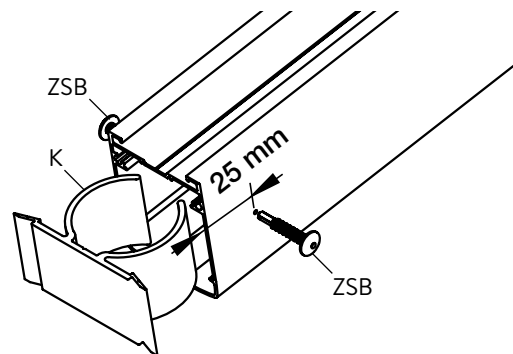
Cut the plastic sheet supports TP or TPG to the right length while retaining the pre-cut part. You may have to make this cut-away yourself depending on the cutting. This cut-away is required for proper water drainage of the end profiles.



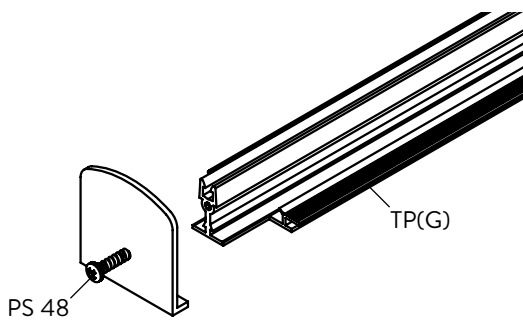
Adaptor profile Y25 or Y32 should be slid in depending on the glazing thickness (see the table on page 84).



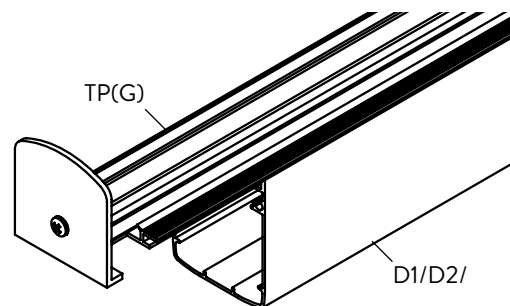
Cut supports D1 or D2 to the proper length at a right angle. Cut the reinforced profiles to the right length and slide them into the aluminium support profiles. For regular installation using plastic sheets, the length of the reinforced profiles should be the same as the support length.



For installation using glazing, the reinforced profiles should be 100 +mm shorter than the supports (installation with connectors and spacers; see page 33).



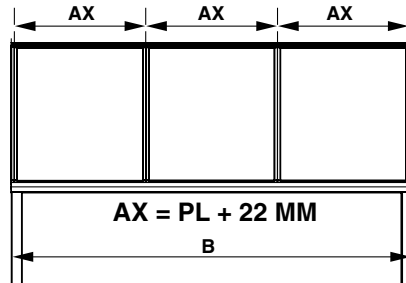
Screw the stop profiles to the pre-cut side of the sheet supports using the included parker screws PS 48 (4.8 x 25 mm).



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

Supports and side supports

Assembly



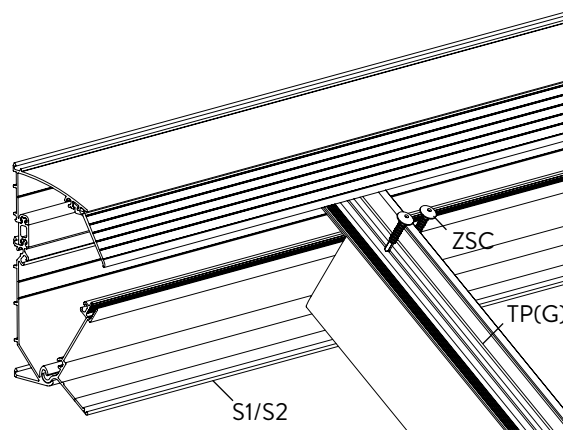
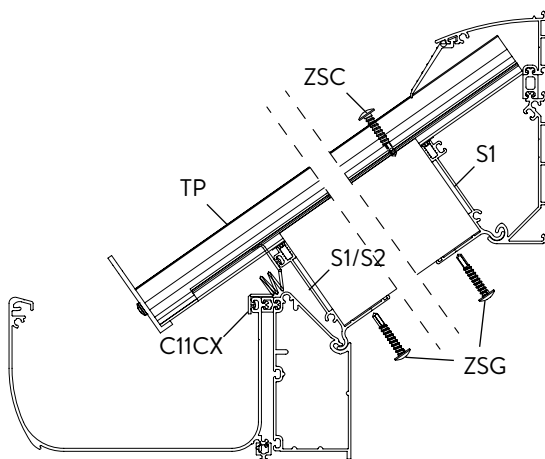
The number of supports and their position is determined in relation to the glazing and the load. Check the length of the support with regard to the depth of the conservatory and the load (glazing + snow and wind); see the graphs on pages 77 - 80 or use the Climafast calculation application.

The total sheet width of polycarbonate or acrylic plastic sheets is used except for the left and/or right sheet which may be cut to fit. The axis distance between the AX supports = sheet width + 22 mm. Take into account a lateral clearance of 5 mm on each side. All useful information for the processing and installation of glazing plastics can be found on pages 17 & 18.

The total width is divided into equal parts of max. 700 mm when using glass. The glazing quantity is determined as follows: $(B - 60 \text{ mm}) / 700$ rounded off upwards. The width of the glazing is determined as follows: $((B - 60 \text{ mm}) / \text{glazing units}) - 22 \text{ mm}$. Please follow the instruction of your supplier for the glass.

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

Standard installation for plastic sheets

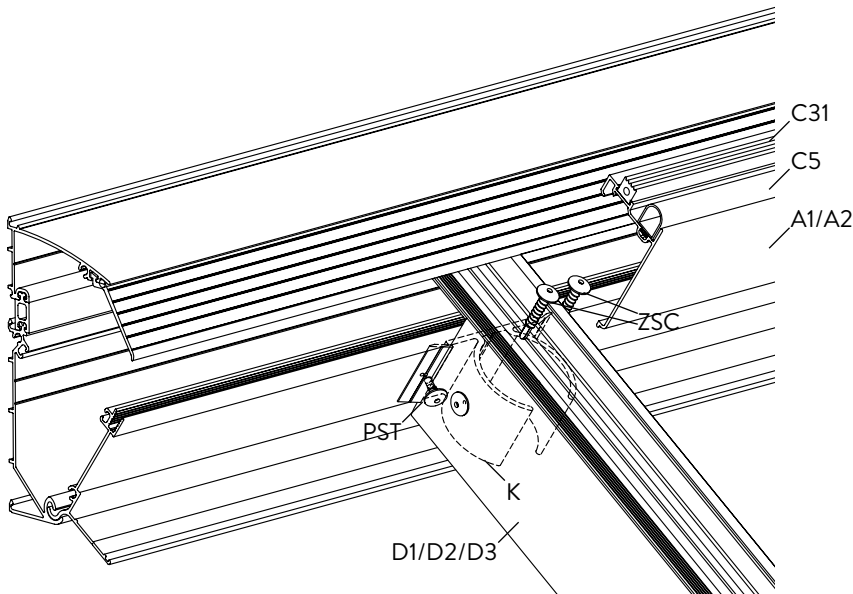


Position the assembled side supports on hinges S1 or S2. The supports at the wall and gutter side must be anchored in hinge profile S1 or S2 using ZSG screws. Do this on the marked line that can be seen on the bottom side of hinge profile S. First drill using a \varnothing of 4 mm for supports with steel reinforcement. Mount the rubber C11CX on the hinge and gutter.

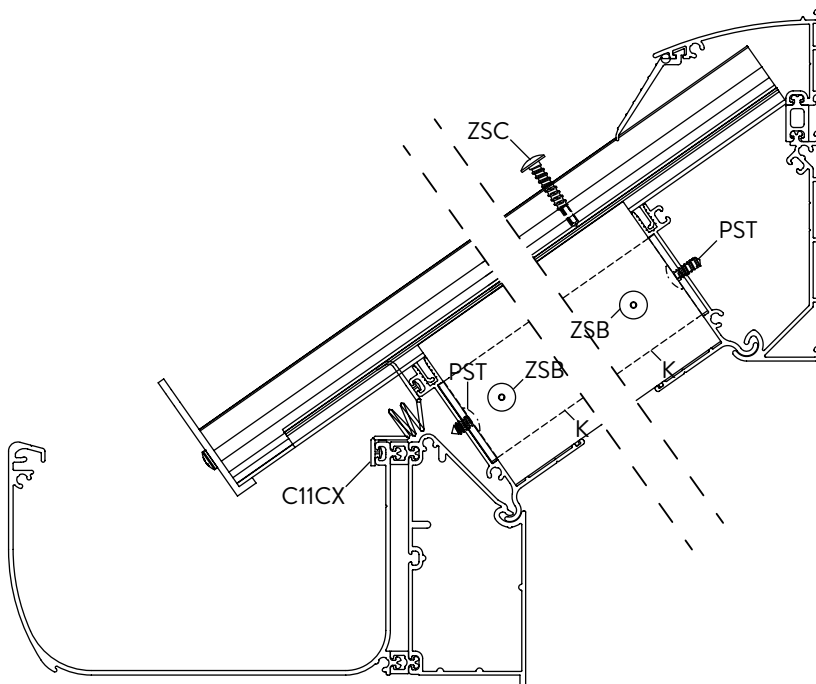
Slide sheet supports TP(G) as far up as possible against the wall profile and fasten them using 2 ZSG screws using a neoprene seal. Ensure that all gutter side stop profiles area aligned.

Supports and side supports

Installation using connectors and glass



Fasten connectors K on to the hinge profiles using parker screws PST. Drill holes with a \varnothing of 4 mm in advance at the indicated lines (left and right) of the connector. The holes are to be drilled to the left and right of the support, both on the wall and gutter side. Cut away one wing of the connector when installing the side supports using K connectors to ensure that the connector is not in the way laterally with regard to the finishing profile. Allow for a clearance of at least 5 mm the side support will be fixed against a wall. Install spacers A1 or A2 between the supports 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 up against the wall profile and fasten these AS HIGH AS POSSIBLE using 2 ZSC screws with a neoprene O-ring. Ensure that all gutter side stop profiles area aligned. The TP(G) profile expands downwards. Mount the rubber C11CX on the hinge and gutter. See page 57 for installation tips for a Climax system with thermal bridge when using double glazing.

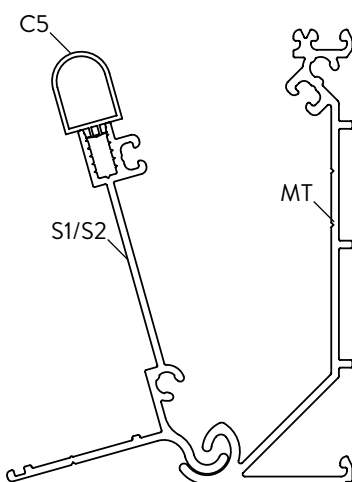
Glazing: plastic sheets

Preparation

	gutter	GD1+G GD2+G
Glazing		
Plastic sheets		5° - 45°

Only the left and right sheets are cut to size. Provide the open ends with suitable plastic tape (closed tape BT on the top side = wall side and perforated tape BB on the bottom side = gutter side). Ensure each sheet has a end profile on the gutter side. Check whether the end profile is perforated at the bottom. This is required for proper water drainage. Ensure that the UV-protected side of the sheet is always upwards. See pages 17 & 18 for more information on the processing, installation and maintenance of plastic sheets. Electrical facilities must be implemented for plastic sheets with LED lighting. Specific installation tips are provided on page 88.

Assembly



Push support seal C5 into the hinge profile recess between the supports. Position the glazing between the sheet supports with the end profile against the stops on the gutter side. Ensure that you leave 5 mm clearance at each side.

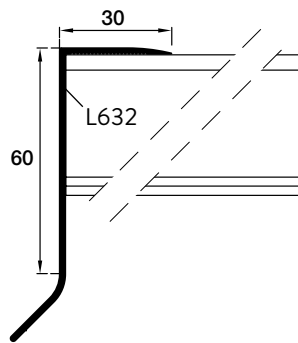
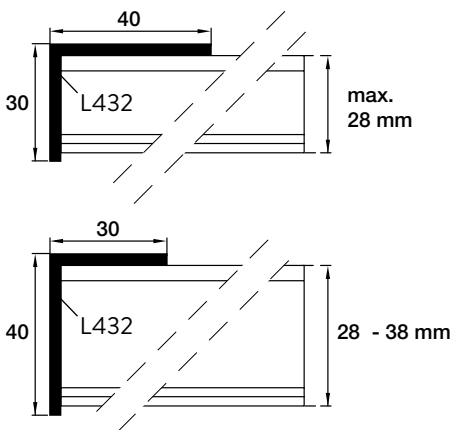
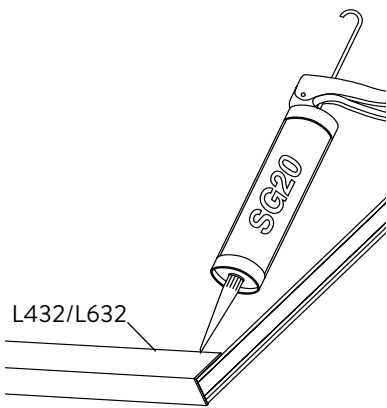


Apply a silicone sealant that does not affect plastic material at the top edge of the end profile. Ensure that the multiple layer plastic sheets have a slope of at least 5° or 8,7 cm per metre because, if not, the guarantee will be void.

Glazing: glass sheets

Preparation

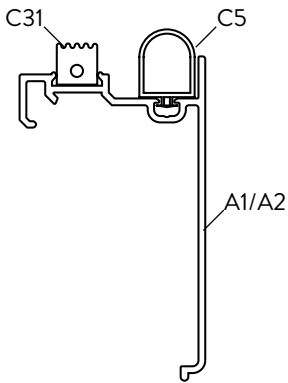
gutter	GD1+G120A GD1+G GD2+G	GDG
Glazing		
Glass	5 - 45°	5 - 20°



Always use laminated glazing in your conservatory roof according to the applicable standards. Consult your glass supplier. Stick an L-shaped end profile L432 or L632 on the short side of the glass. Use silicone SG20 for this.

Glazing: glass sheets

Assembly



Check the length of spacer A1/A2. The length of the spacers must match the distance between the supports. Slide seal C5 into the provided slot and press support seal C31 into the provided cut-aways of spacer A1 or A2. The spacers fit into the hinge profile between the supports. The glazing is, therefore, supported on four sides. Position the glazing between the sheet supports with the end profile against the stop profiles on the gutter side. Ensure to leave 5 mm clearance at each side.

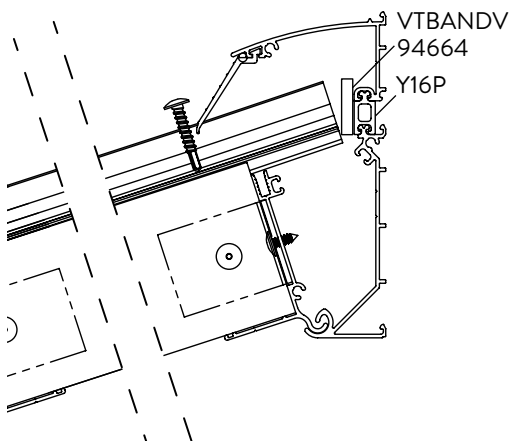
Glazing connectiong

When the glazing (plastic sheets or glass) consists of multiple parts, the parts can be connected using glass connection profiles GVB and GVT. The installation instructions are provided on page 82 & 83.

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

Grey foam adhesive tape

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



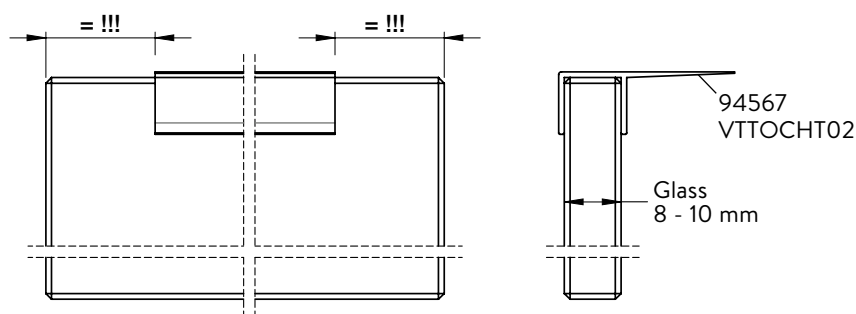
Glazing: glass sheets

Glass sheet preparation

Measure & demarcate so the PVC profile is fixed precisely on the centre 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).



Silicone sealant

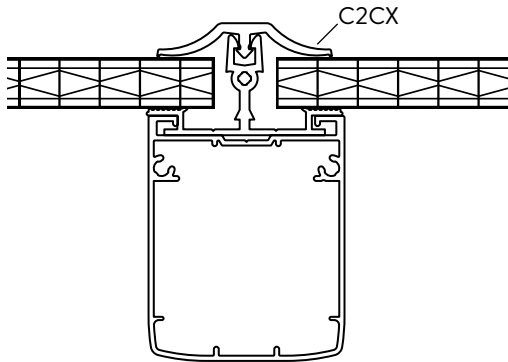
After the installation of the glass cover profiles (CL16 or CLSB+CLST).

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.

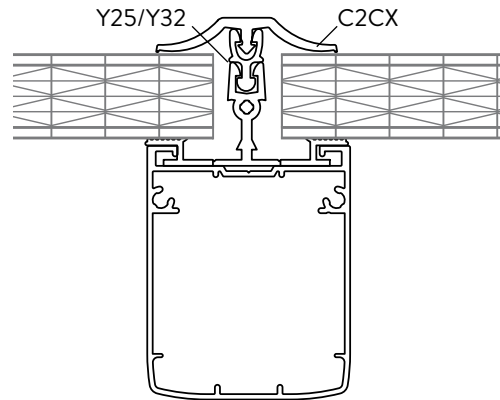
Finish

SUPPORTS

SEAL FINISH



Finish using seal C2CX for plastic sheets or glass: The glazing thickness and options are provided in the table on page 84.

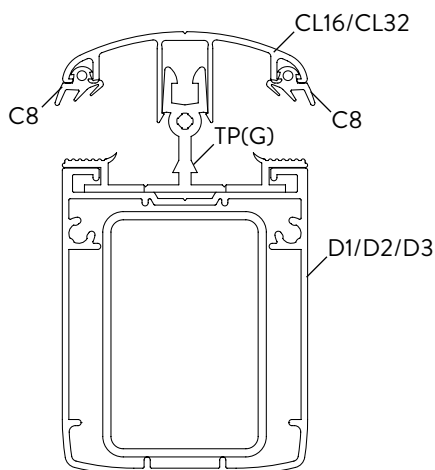


Push seal C2CX into sheet support TP(G) or into raised profile Y25/Y32.

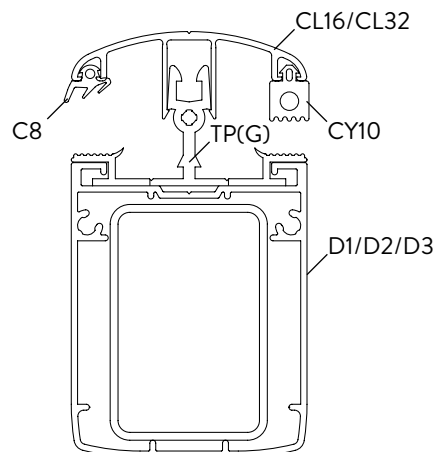
CLIP FINISH

For plastic sheets or glass: The glazing thickness and options are provided in the table on page 84.

Standard clips



CL16 for 16 mm thick sheets or glass.
CL32 for 25 or 32 mm thick sheets or glass.



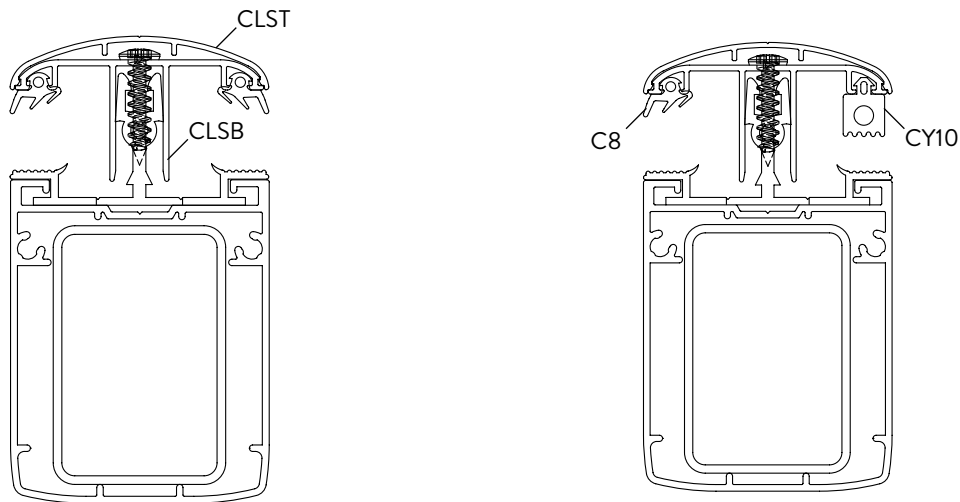
Push seal C8 or CY10 on both sides into the clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing. CL16 and CL32 are fastened with the clips to sheet support TP. The clips are fastened manually using a rubber hammer and a plank. Ensure the clips are not dented.

Finish

SUPPORTS

Screw-in type clips

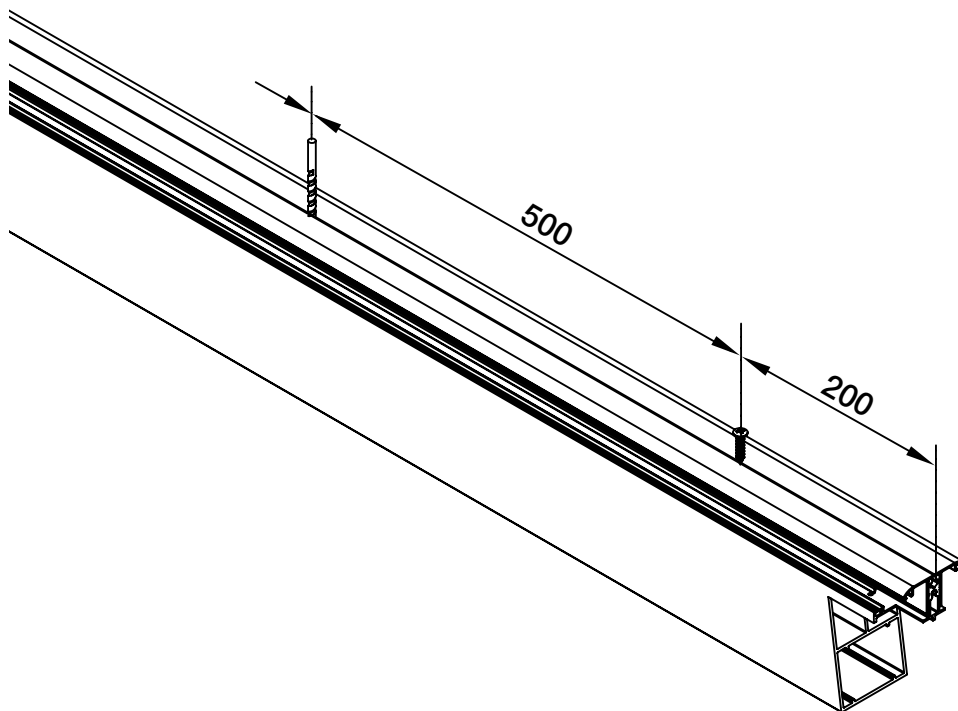
For plastic sheets or glass: The glazing thickness and options are provided in the table on page 84.



The screw-in type clips consist of 2 parts:

- CLSB bottom clips
- CLST top clips

Push seal C8 or CY10 on both sides into the CLSB clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing.



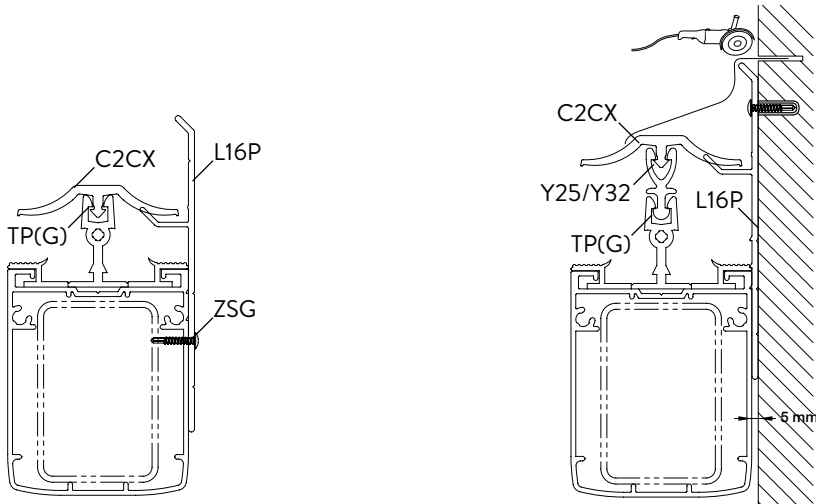
Drill holes with a \varnothing of 5.5 mm in the CLSB every 500 mm, starting and ending at 200 mm from the ends. Fasten the CLSB to the TPG using adapted Hi-Lo screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Either single screws and/or adaptor profiles Y10/Y25 must be used depending on the glazing thickness (see the table on page 84). The CLST clips must be fastened manually using a seal hammer and a plank. Ensure the clips are not dented.

Finish

SIDE SUPPORTS

SEAL FINISH

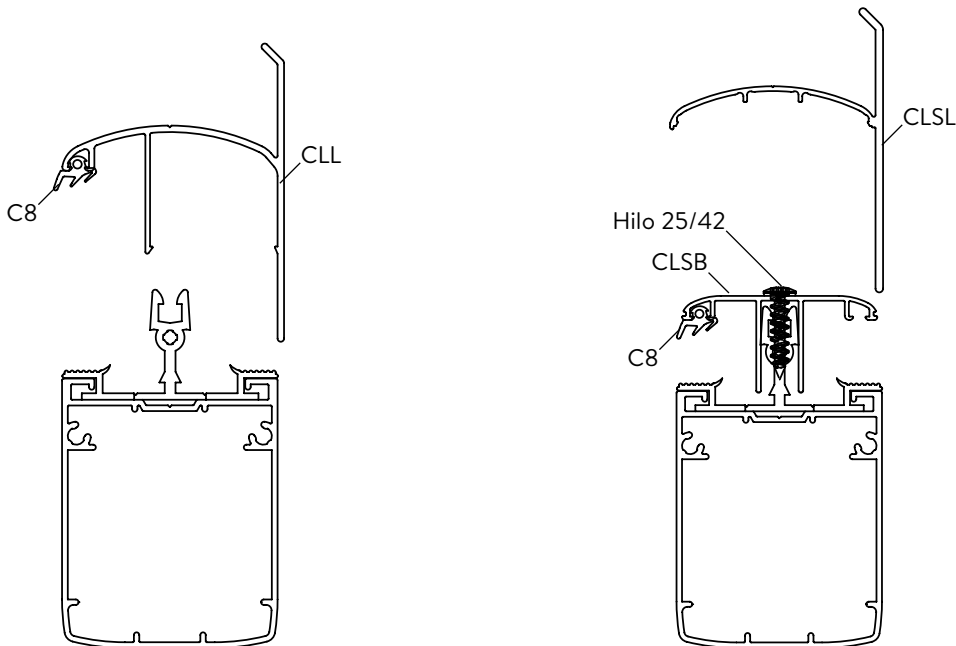
Seal C2CX for plastic sheets or glass: The glazing thickness and options are provided on page 84.



Push seal C2CX into sheet support TP(G) or into raised profile Y25/Y32. Cut side finishing profile L16P obliquely on the wall side in accordance with the roof pitch α . Measure the distance from the wall to the stop profile to determine the length of profile L16P. Position profile L16P against the exterior against the support profile. Fasten profile L16P every metre sideways against the support (with ZSG) or against the wall using screws if the structure is to be freestanding or against a wall.

CLIP FINISH

Clips for plastic sheets or glass: The glazing thickness and options are provided on page 84.

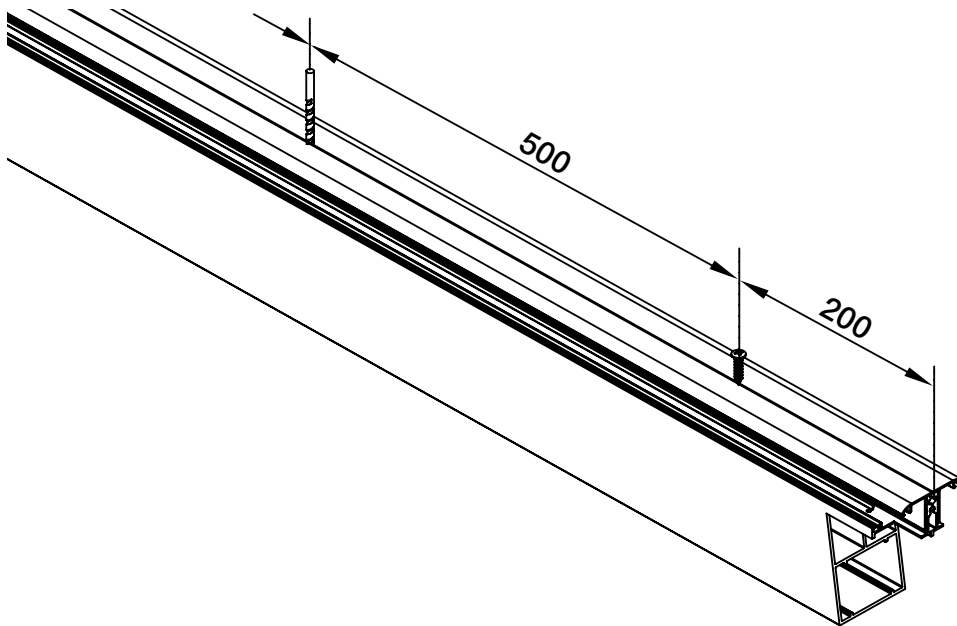


CLL for plastic sheets or glass with a 16, 25 or 32 mm thickness: Position seal C8 or CY10 on one side into the clips.

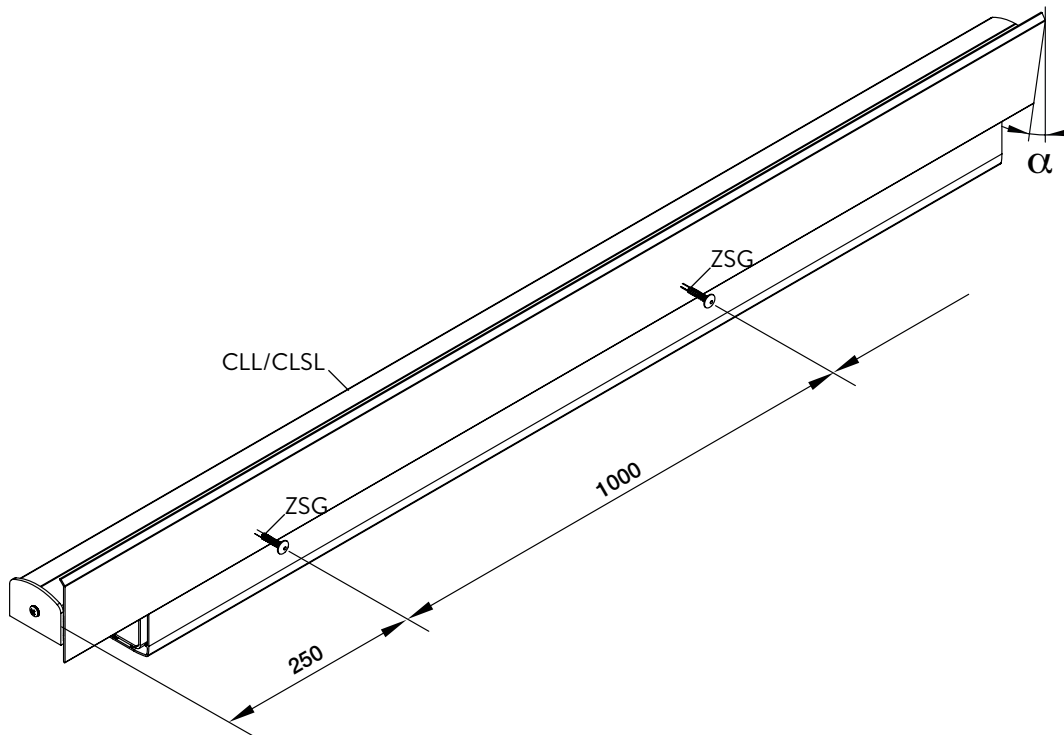
CLSB + CLSL for plastic sheets or glass with a thickness of 8 to 34 mm: Position seal C8 or CY10 on one side into the clips.

Finish

Installation of screw-in type side clips



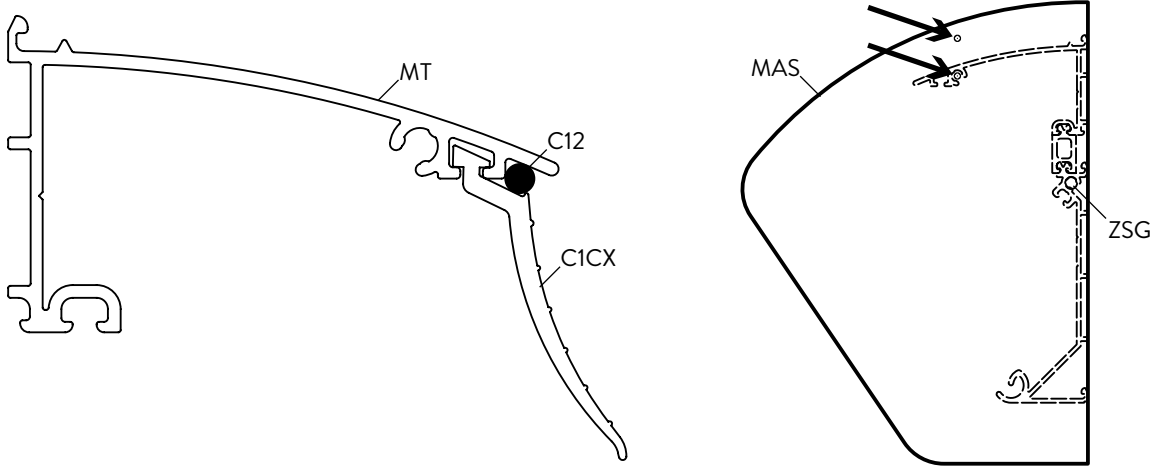
Drill holes with a \varnothing of 5.5 mm in the CLSB every 500 mm, starting and ending at 200 mm from the ends. Fasten the CLSB to the TPG using adapted Hi-Lo screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Either single screws and/or adaptor profiles CY10/Y25 must be used depending on the glazing thickness (see the table on page 84).



Cut the CLL / CLSL profile obliquely on the wall side in accordance with the roof pitch α . Measure the distance to the stop profile to determine the length of profile CLL/CLSL. Position profile CLL/CLSL on the exterior against the support profile and apply pressure manually using a rubber hammer and a plank. Fasten the CLL/CLSL every metre sideways against the support (with ZSG) or against the wall using screws if the structure is to be freestanding or against a wall.

Finish

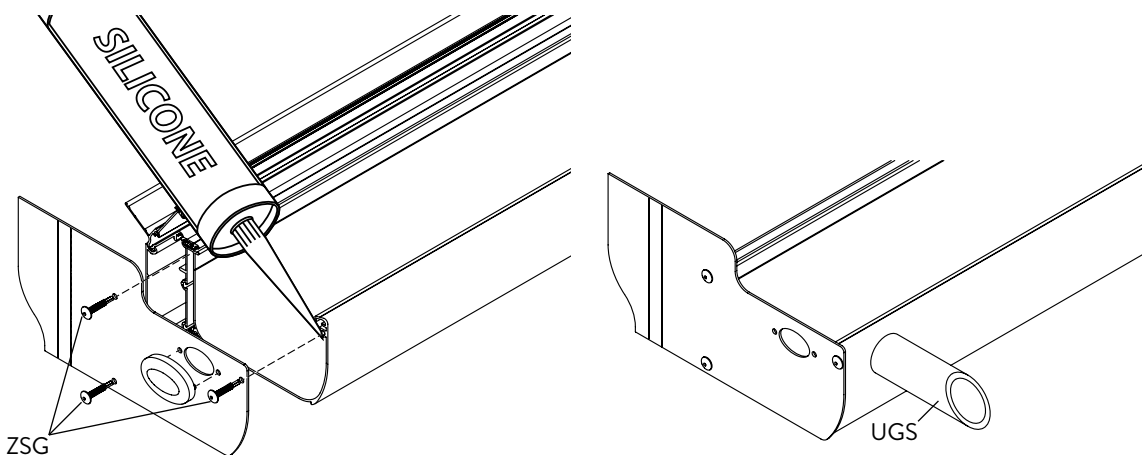
WALL PROFILE



Position seal C12 to increase the pressure of C1CX on the glazing.

Position the MAS end panel on the freestanding sides of the wall profile. Use the point indications on the MAS to determine the position of the second ZSG screw. Fasten the MAS only after the roof has been completely installed.

GUTTER

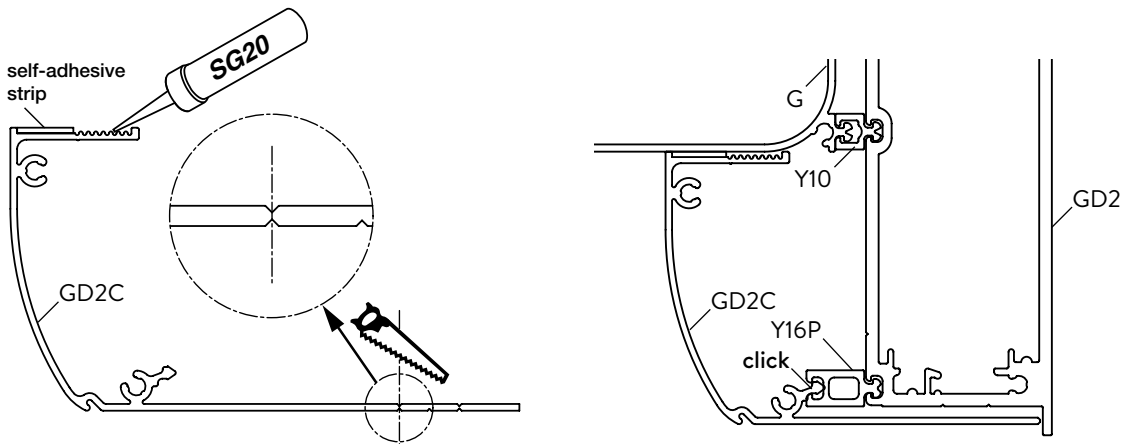


Install the end panels and click the plastic plug in the corresponding holes. Apply a silicone sealant to the interior of the end panel.

A frontal UGS water outlet is required to ensure the water can flow outside when the water outlet is obstructed if the gutter has a wall on both sides. Drill an opening with a \varnothing of at least 33 and no more than 35 mm at the front of the gutter. This opening should be lower than the overflow in the gutter end panels.

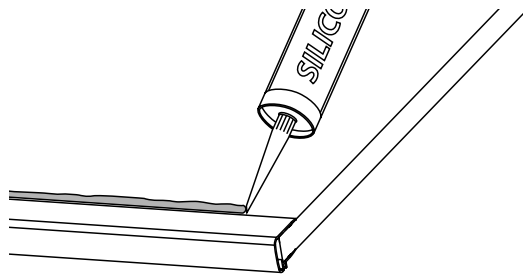
Finish

GUTTER GD2 + G



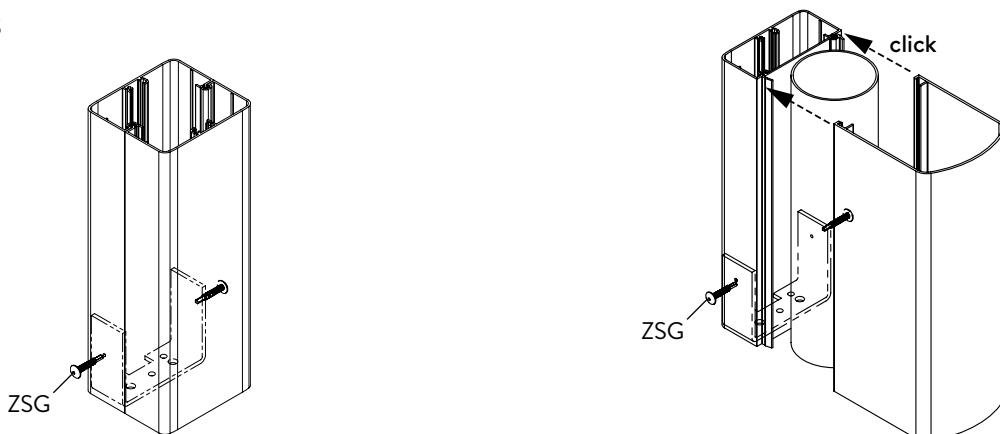
Gutter support GD2 is finished with GD2C. Cut the profile longitudinally at the indicated position. The length of GD2C matches the distance between the walls and/or posts. Add silicone adhesive over the complete length of the ribbed zone. Free the ends of the adhesive strip and fold these outwards.

Fasten the detail of the GD2C with a clip into plastic profile Y10. Once it is in the correct position, free the adhesive strip completely and push the GD2C against the gutter.



Do not forget to apply silicon sealant that does not affect plastic material to the end profiles on the plastic sheets on the gutter side.

POSTS



Check whether the posts are completely vertical (level) and fasten each top and bottom section in the U-brackets using coated ZSG screws. Drill holes with a 3 to 4 mm Ø in advance to avoid damaging the coating.

Add the water outlet pipe and connect it to the rainwater drain pipe. Install the PC cover clips to the post.

Installation tips for the Climax system **with thermal bridge**

Posts

Determine the length of the posts (HN + Hg) in regard to the slope and the position of the wall profile (Hm). Specific instructions apply for the posts in combination with gutter support GD2 (see page 84).

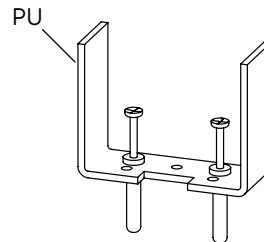
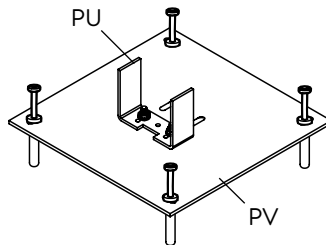
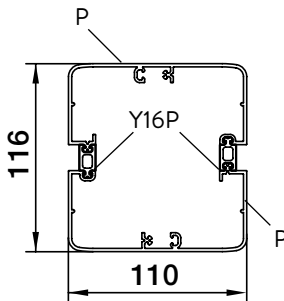
The following posts can be used for roofs with a thermal bridge:

Standard posts

accessories for the corner post
Base plate PV and U-shaped bracket PU

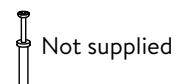
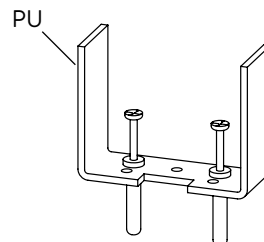
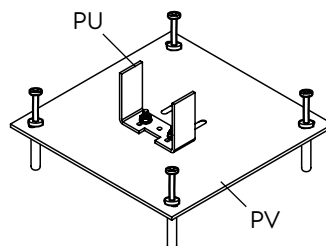
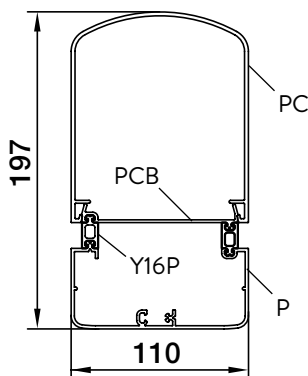
accessories for the middle post
U-bracket PU

Post 116/110 (P + P + Y16P)



Posts with post clips for water drainage

Post 197/110 (P + PCB + PC + Y16P)



Posts

Bolt the U-bracket to the base plates PV using the BMR screw set for the corner posts. Determine the position of the base plates PV as indicated on page 13 and anchor these on a strong foundation in concrete with the appropriate fixing material. Position the U-bracket correctly on the base plate and fix it.

Fig. A

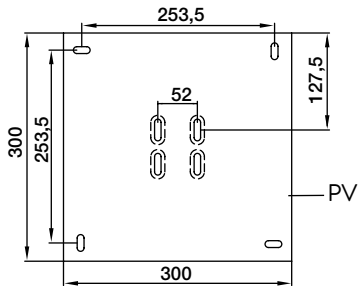
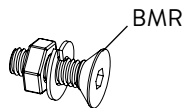
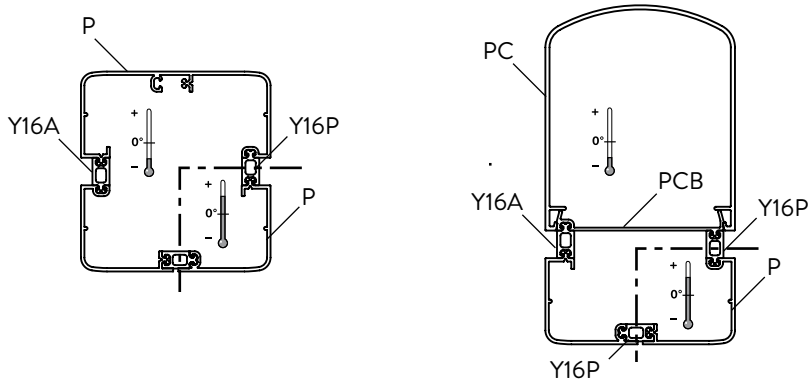


Fig. B



Corner posts with thermal bridge

The interior post section must be cut longitudinally to ensure a corner post has a thermal bridge. Both sections must, next, be reconnected with a Y16P thermal bridge. A coated connection profile Y16A (see the figure) is used for the exterior connection. The thermal bridges must be at the same height when installing the windows later.



The U-bracket for the middle posts can be installed without a base plate directly on a solid basis. Position the posts over the brackets. Position them perpendicular (level) and shore them temporarily to ensure they do not flip over. The top part of all posts must be completely aligned and level. The length of the posts must be adjusted if the bottom of the gutter or gutter support with gutter is not flat (with GD2). See page 81 for more information.

GUTTER BRACKET

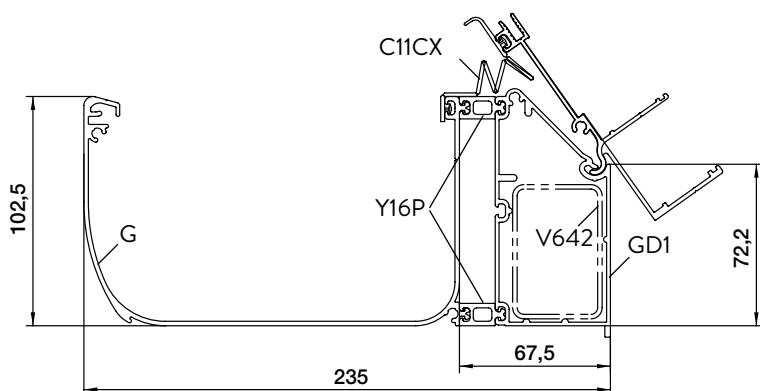
If the conservatory roof is limited by 1 or 2 walls on the sides, the gutter can be anchored to the wall with gutter bracket GDC. Check whether the foundation and the walls, on which the structure is to be anchored, have a sufficient load-bearing capacity. The fixing materials have to be adjusted to the basis and the load. If required, have an architect or consultancy agency assist you. Specific installation instructions are provided on page 48.

Gutter combination

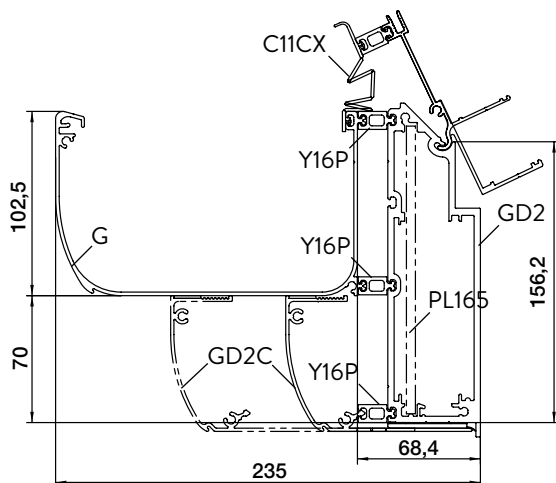
There are multiple gutter combination options in relation to the load and the required span for roofs with a thermal bridge. Use the load graphs on pages 77 - 80 or calculate using the Climafast calculation application:

Gutters (with reinforcement profile)

GD1 + (V642) + G + Y16P + C11CX



GD2 + (PL165*) + (PL105*) + G + Y16P + C11CX

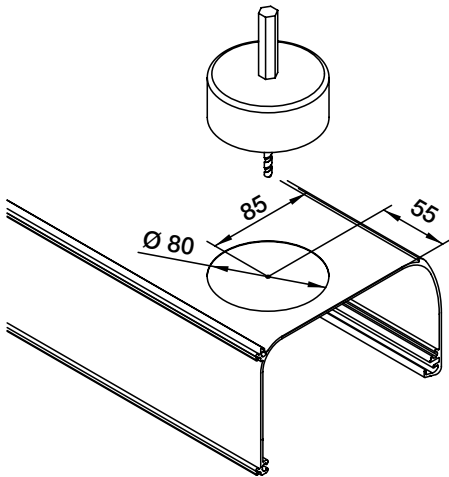


Shorten the gutter by 10 mm if the gutter is to be mounted between two walls. The 5 mm clearance on each side is required for the installation of the slide ends. Gutter support GD1 or GD2 must be 10 mm shorter than the gutter at each side. The clearance is required for thermal bridge GAP1 or GAP2.

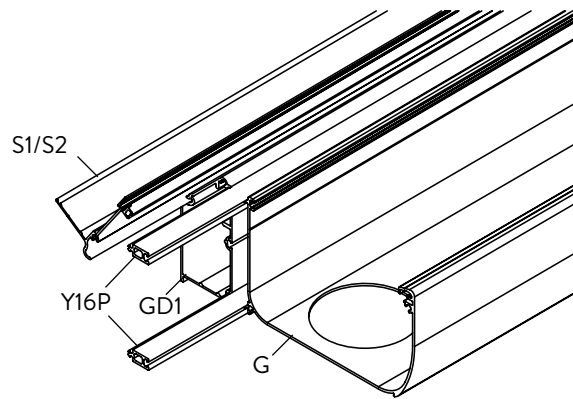
Gutter

GD1 + G + Y16P + C11CX

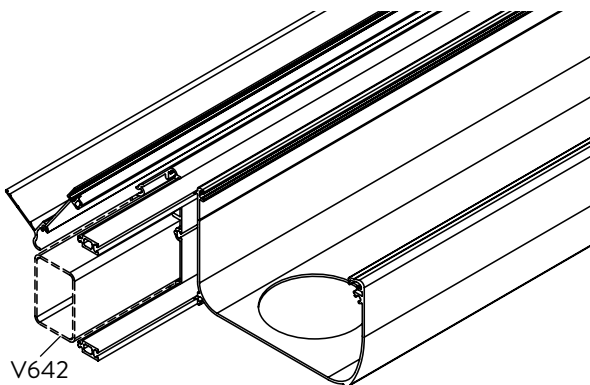
Assemble the gutter components to prepare for the installation of the gutter.



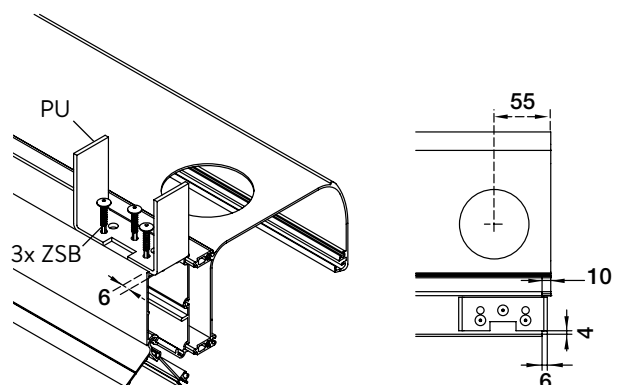
Cut out the opening for the water outlet.
Use a $\text{Ø } 80$ mm circular drill for this task.



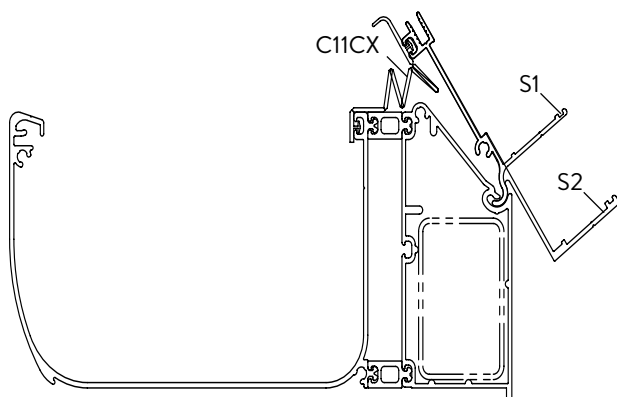
Connect the gutter (G) to the gutter support (GD1)
using the Y16P.
Slide in the hinge profile (S1 or S2).



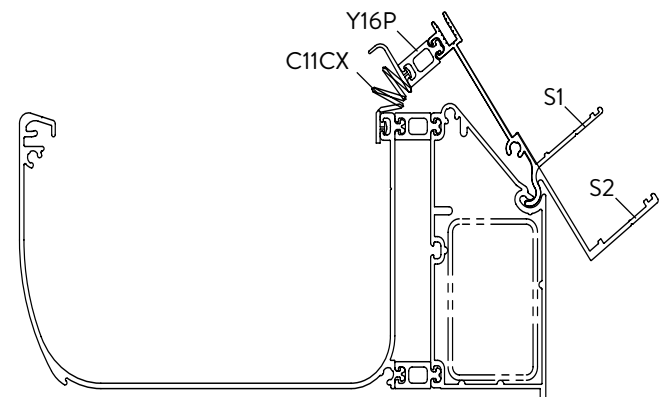
Slide in reinforcement profile V642 (optional).



Installation of U-bracket PU at the freestanding side.
Position the U-bracket 6 mm outwards in relation to the
gutter support.



Installation of seal C11CX (plastic sheets)



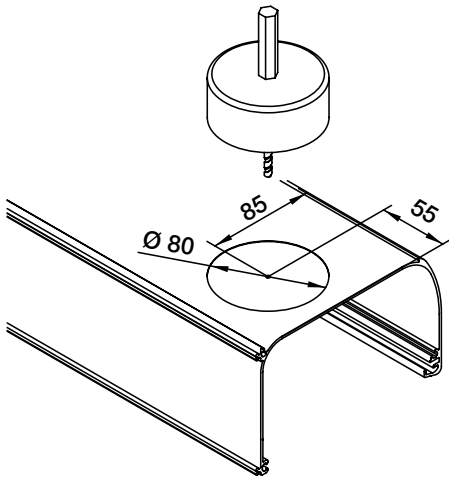
Sliding in thermal bridge Y16P and positioning seal C11CX
(glass)

Pre-drill a hole with a 4 mm diameter before installing the U-brackets if the gutter (support) is reinforced with a steel hollow section. Using strong self-drilling screws is recommended.

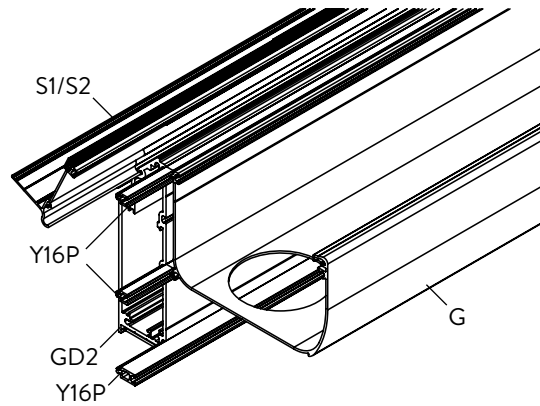
Gutter

GD2 + G + Y16P + C11CX

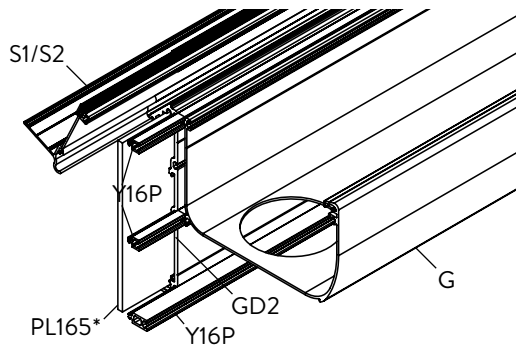
Assemble the gutter components to prepare for the installation of the gutter.



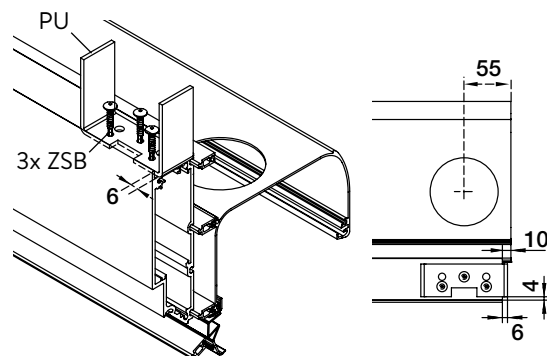
Cut out the opening for the water drainage. Use a $\varnothing 80$ mm circular drill for this task.



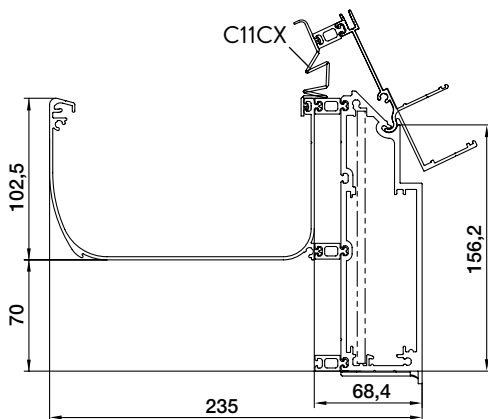
Connect the gutter (G) to the gutter support (GD2) using the Y16P. Install an additional Y16P in the bottom slide detail. Slide in the hinge profile (S1 or S2).



Slide in reinforcement profile PL165* and/or PL105* (optional).



Installation of U-bracket PU at the freestanding side. Position the U-bracket 6 mm outwards in relation to the gutter support.

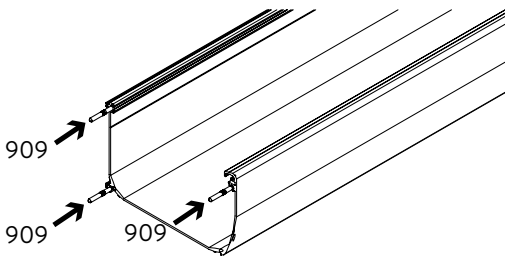


Installation of seal C11CX.

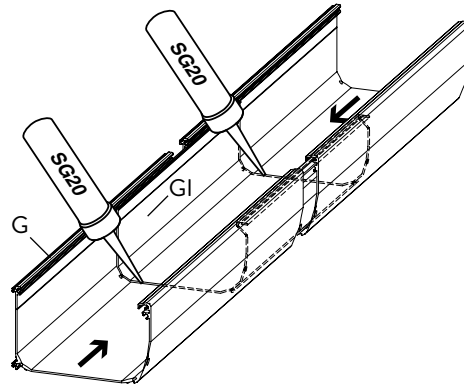
Gutter

Multiple gutter elements can be connected to each other for gutter lengths > 7 metres. A gutter support must be installed at every gutter connection point. We recommend tilting the profiles and supporting the gutter support connections when using a gutter and gutter support (GD1.GD2) combination.

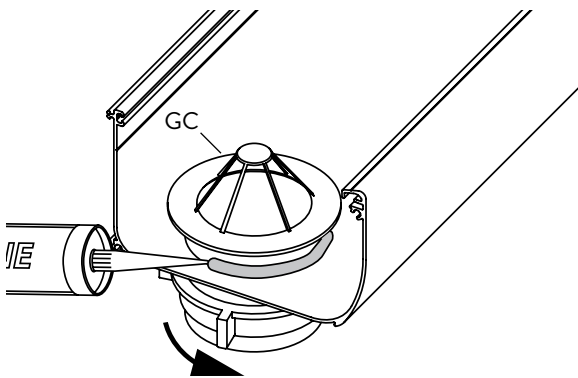
The gutter profiles can be linked using connection pins (909) and/or GI connector profile. Use silicone glue SG20 as sealant.



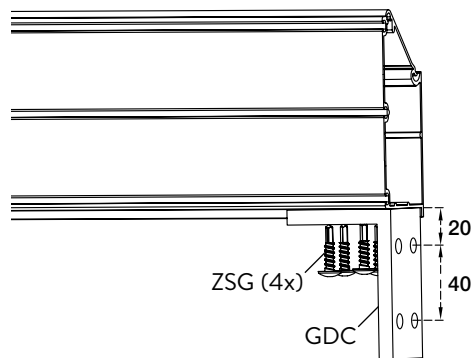
G + 909 (3x)



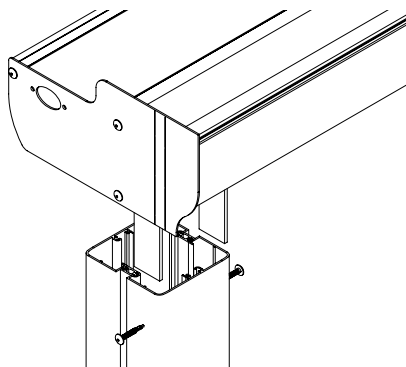
G + GI + SG20 + 909 (3x)



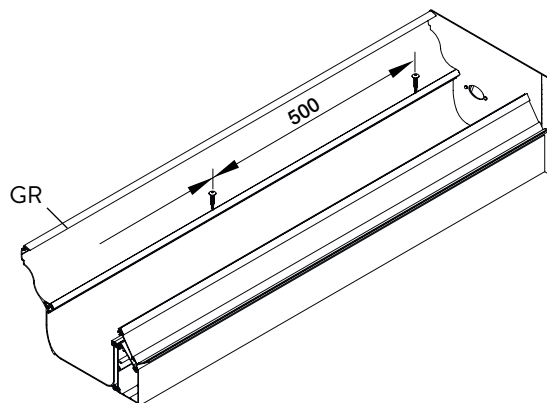
Install the outlet in the gutter opening and seal using silicone.



The gutter slide ends have to be pre-installed using self-drilling ZGS screws if the gutter is installed between two walls (for example with a gutter bracket).



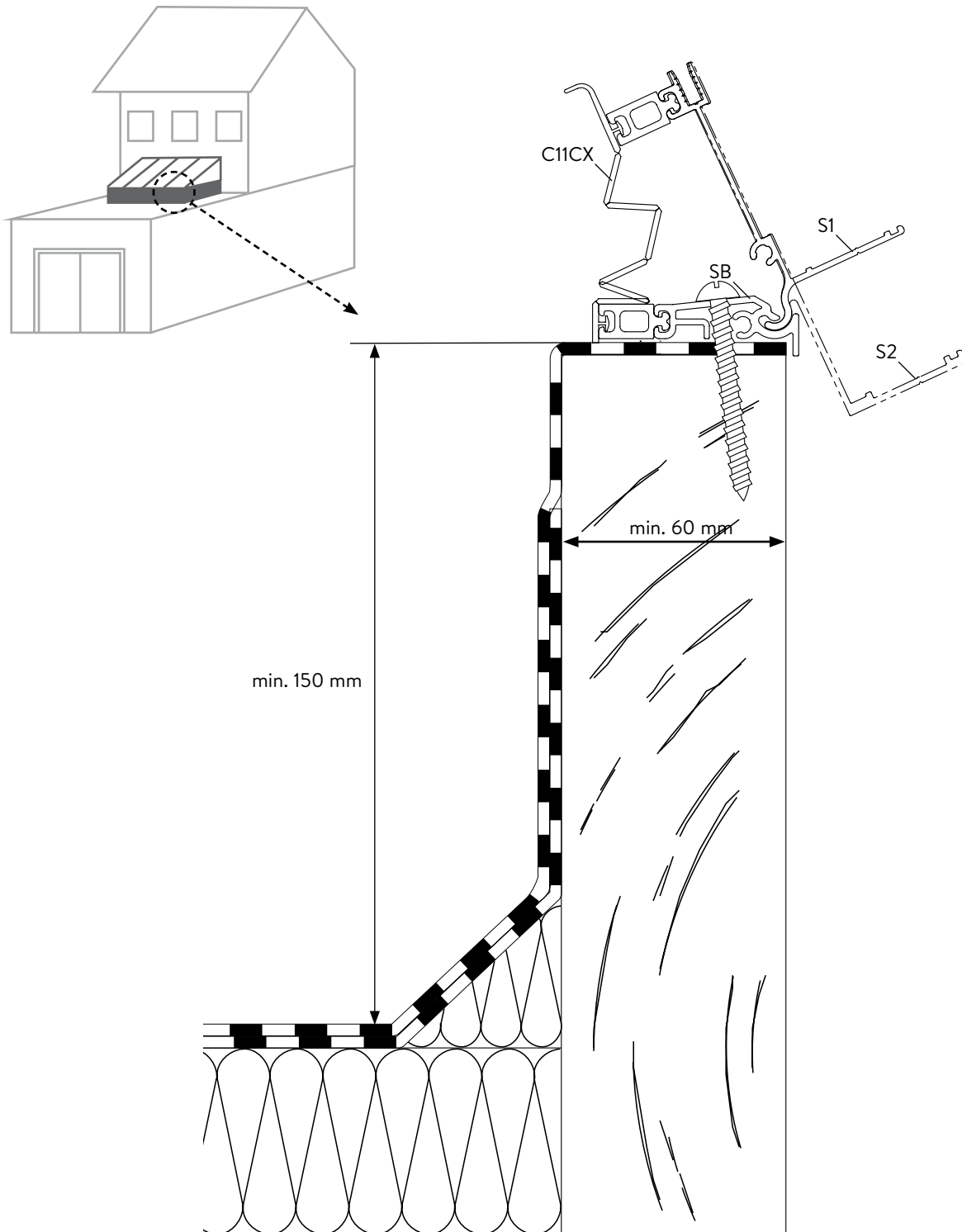
Place the preassembled gutter on the posts and fasten the structure using coated ZSG screws.



A raised profile GR can be installed on the G gutter. First, position the side gutter slide ends and, next, fasten the GR profile on to the gutter every 500 mm.

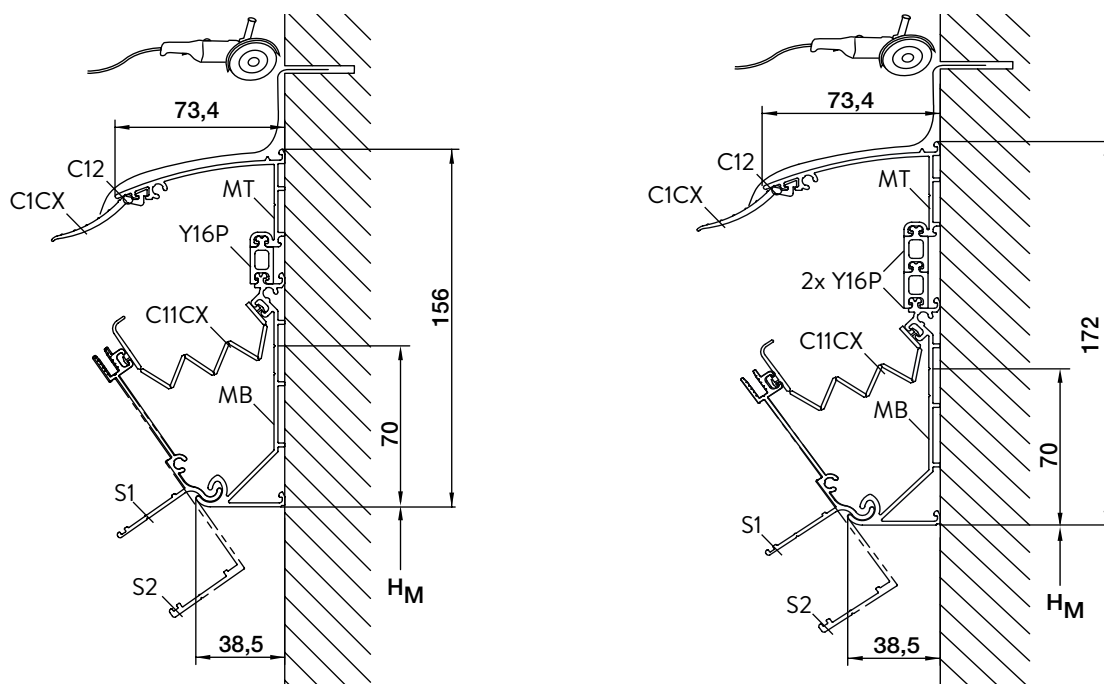
Hinge profile

The Climax system can be installed on a (roof) structure. The self-supporting gutter profiles must be replaced by non-self-supporting hinge profile SB for this. This profile is installed on a continuous upstand using adjusted fixing accessories to be provided by the customer. Seal C11CX must be installed according to the figure below to provide a watertight and windtight connection. The white side must be installed against the glazing.

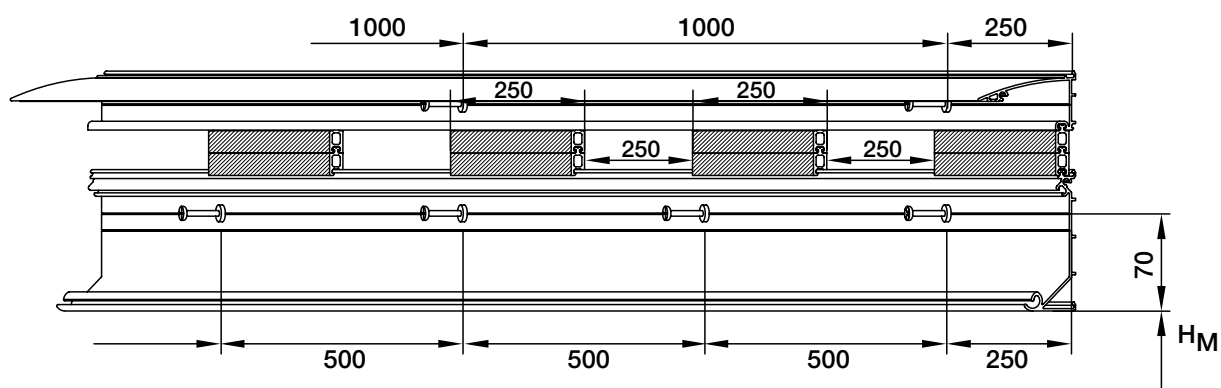


Wall profile

Parts



Preparation



Make a slot in the wall against which the conservatory roof can be installed (see page 14.) Install a lead slab or zinc flashing. Drill a hole on the indicated line in the bottom wall profile MB at 250 mm from the ends and subsequently every 500 mm. The diameter of the hole will depend on the selected fixing material. Repeat this every 1000 mm for the upper wall profile MT. Slide seal C1CX in the opening of the upper wall profile MT. Slide-in thermal bridges Y16P are used to fasten the lower and upper wall profiles. These thermal bridges must not be slid in continuously over the full length. A 250 mm length every 250 mm is sufficient. The Y16P is used to regulate the height. The number of thermal bridges Y16P which 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 slope (see the table on page 12).

Assembly

Fasten the assembled wall profile using the adjusted anchors. The holes in the bottom wall profile match height $HM + 70$ mm on the wall.

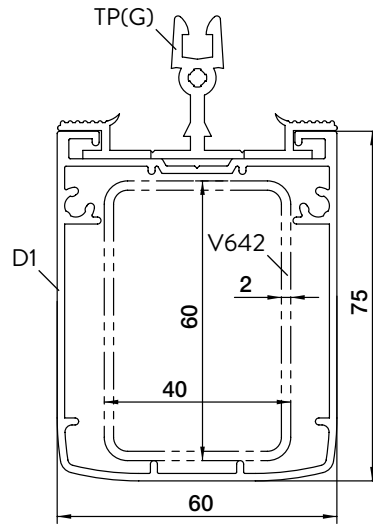
Finish the top of the upper wall profile MT with silicone and with a lead slab or zinc flashing built into the wall. Install hinge profile S1 or S2 in the lower wall profile. Position seal C11CX in the hinge and the bottom wall profile over the full length as indicated.

Rafters and side rafters

The following (side) supports are possible:

Sheet supports TP (white) are used for roofs with plastic glazing. Sheet supports TPG (green) are used for roofs with glass (single or double glazing). A steel reinforcement profile must be slid into the supports for a large span or an expected heavy snow load. Check the length of the support in relation to the glazing and the snow and wind load. See the graphs on page 77 - 80 or use the Climafast calculation application.

Support
D1 + TP(G)



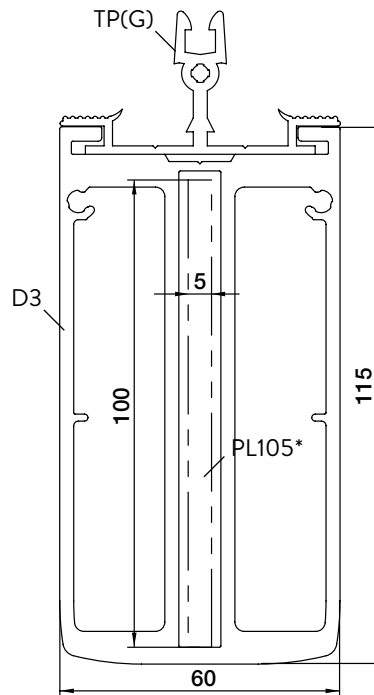
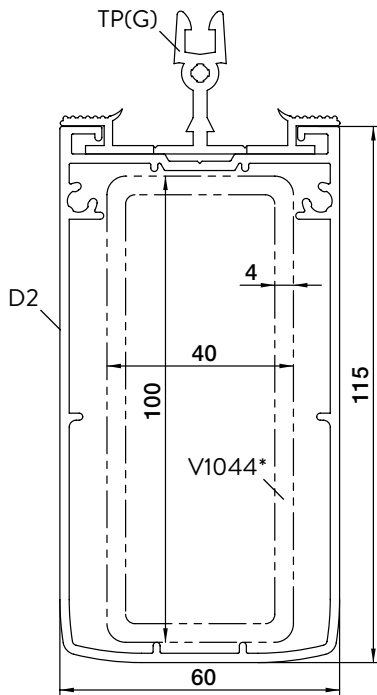
Support with reinforcement
D1 + V642 + TP(G)

D2 + TP(G)

D2 + V1044* + TP(G)

D3 + TP(G)

D3 + PL105* + TP(G)



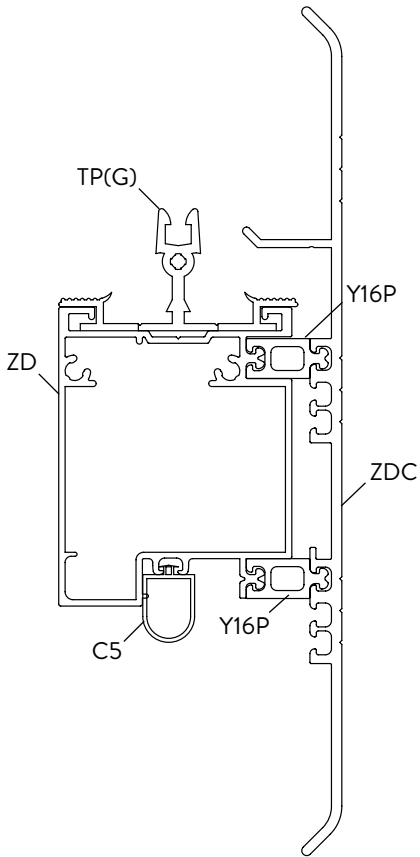
The steel reinforcement is 100 mm shorter than the length of the support. No reinforcement profiles are used in the side supports.

* Reinforcement profiles V1044 or PL105 are not supplied. They can be bought at any local hardware shop. We recommend treating the reinforcement profiles with an anti-corrosion product.

Rafters and side rafters

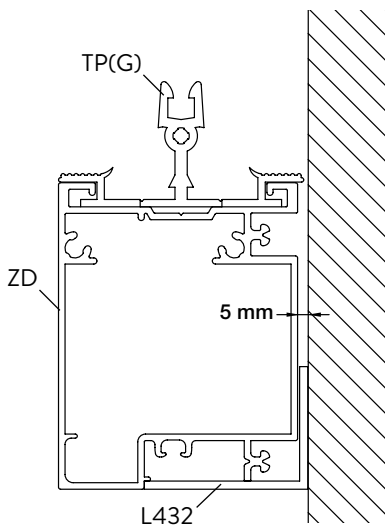
Freestanding side support

ZD + C5 + TP(G) + Y16P + ZDC



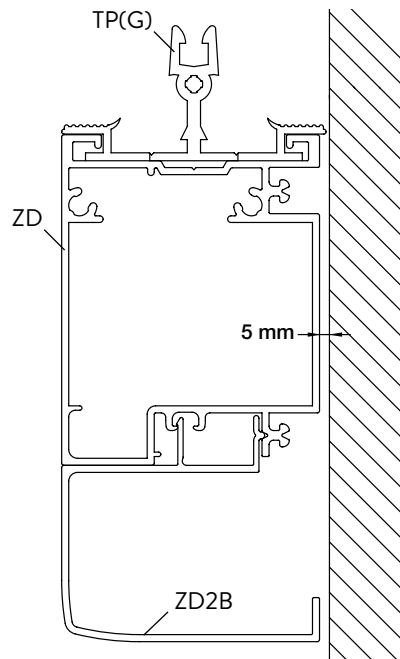
Side support against the wall

ZD + TP(G) + L432



L432 for the finish of the side support with hinge profile S1.

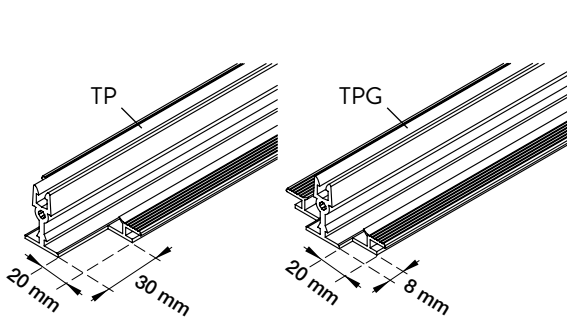
ZD + TP(G) + ZD2B



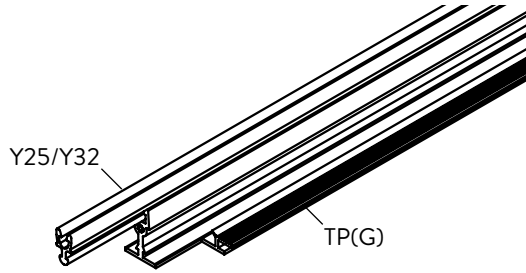
ZD2B for the finish of the side support with hinge profile S2.

Rafters and side rafters

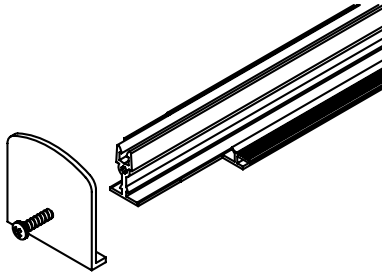
Preparation



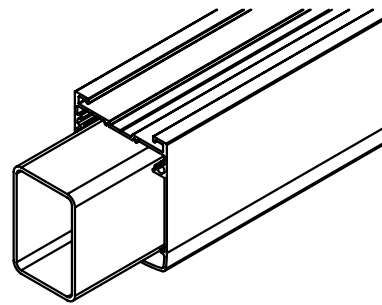
Cut the plastic sheet supports (TP or TPG) to the right length while retaining the pre-cut part. You may have to make this cut-away yourself depending on the cutting. This recess is required for proper water drainage of the end profiles.



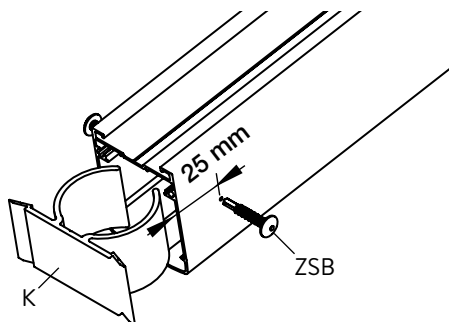
Raised profiles (Y25 or Y32) are required with regard to specific glazing thicknesses > 20 mm. See the table on page 84.



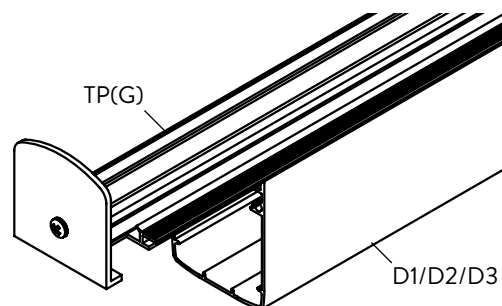
Screw the stop profiles to the pre-cut side of the sheet supports using the included parker screws PS 48 (4.8 x 25 mm).



Cut the (side) supports (D1, D2 or ZD) to the proper length at a right angle. A steel reinforcement profile must be slid into the supports for a large span or expected heavy snow load. Check the length of the support in relation to the glazing and the snow and wind load. See the graphs on page 75-78 or use the Climafast calculation application. Steel reinforcement length = support length - 100 mm.



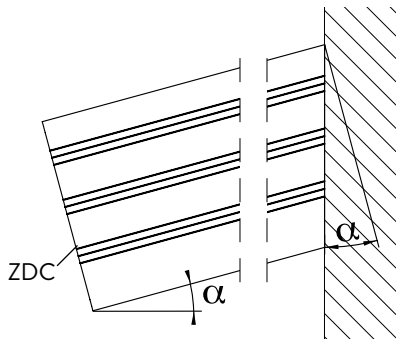
Install connectors K on both ends of the (side) supports and fasten using the provided ZSB screws. Cut away one wing of the connector when installing the side supports using K connectors to ensure that the connector does not obstruct the finishing profile.



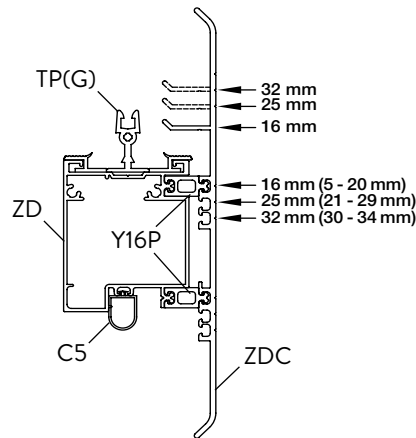
Slide the sheet supports TP(G) into the aluminium supports D1 or D2.

Rafters and side rafters

For freestanding side support with a ZDC finish



Cut side finish profile ZDC at a slant on the wall side based on roof pitch (alpha). Measure the distance from the wall to the stop profile to determine the length of the ZDC profile.

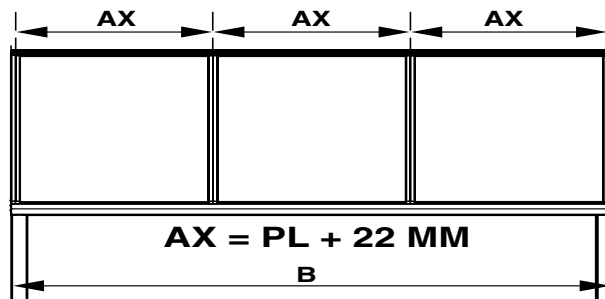


Slide the ZDC profile on to the side support using 2 Y16P thermal bridges. The position of the ZDC depends on the thickness of the glazing (16, 25 or 32 mm). Push seal C5 into the appropriate cut-away at the bottom side of the side support. This seal forms a windtight seal between the side support and the joinery in the side facade of the veranda. Slide sheet supports TP(G) into the aluminium ZD side supports.

For side support against the wall (see the figures on page 52)

A ZD side support is always used for a Climax roof without a thermal bridge. The bottom side is finished using an S1 hinge and an L432 profile. A ZD2B lowering profile is attached to the ZD side support using a S2 hinge. Slide sheet supports TP(G) into the aluminium ZD side supports.

Assembly



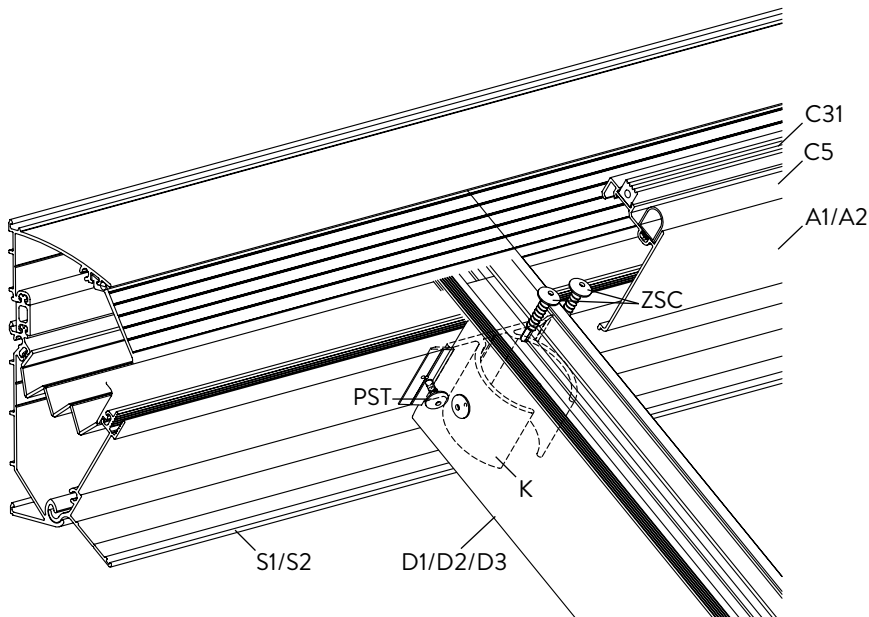
The number of supports and their position must be determined in relation to the glazing and the load. Check the axis distance in relation to the depth of the conservatory (D) and the load (glazing + snow and wind). See the graphs on page 76 - 80 or use the Climafast calculation application.

The total sheet width of polycarbonate or acrylic plastic sheets is used except for the left and/or right sheet which may be cut to fit. The axis distance between the AX supports = sheet width + 22 mm. Take into account a lateral clearance of 5 mm on each side. All useful information for the processing and installation of glazing plastics can be found on page 17 & 18.

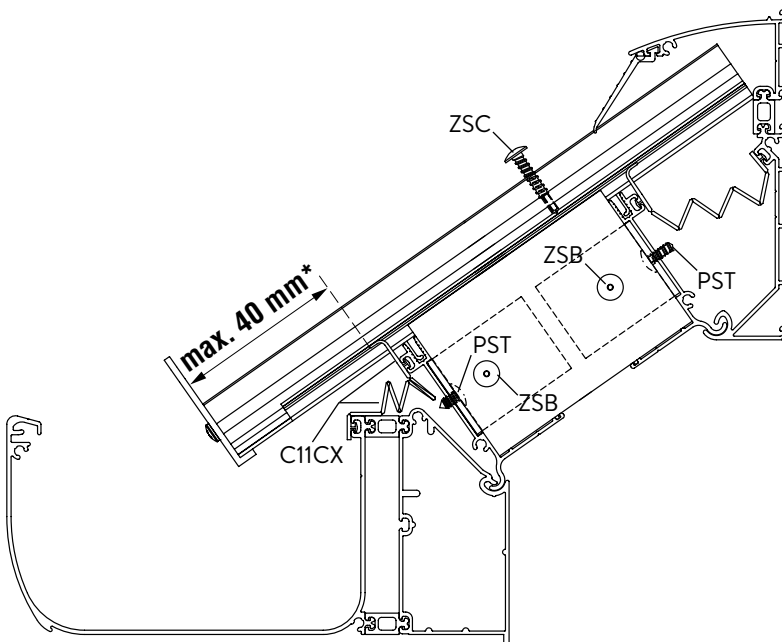
Divide the total width in equal part of 700 mm at most for glass. The glazing quantity is determined as follows: $(B - 60 \text{ mm}) / 700$ rounded off upwards. The width of the glazing is determined as follows: $((B - 60 \text{ mm}) / \text{glazing units}) - 22 \text{ mm}$. Please follow the instruction of your supplier for the glass.

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

Rafters and side rafters



Position the assembled side supports on hinges S1 or S2 with the stop profiles towards the gutter.
 The supports with connectors at the wall and gutter side must be anchored in hinge profile S1 or S2 using PST screws. Pre-drill holes with a \varnothing of 4 mm at the indicated lines (left and right) of connector K. If the side support is to be set against the wall, a clearance of at least 5 mm is required. Install spacers A1 or A2 between the supports on hinge profile S1 or S2. Support seal C5 (plastic sheets) or support seals C5 + C31 (glass) must be installed in here. For more information see page 57.



Slide the TP(G) profile completely up against the wall profile and fasten these AS HIGH AS POSSIBLE using 2 ZSG screws with a neoprene O-ring. Ensure that all gutter side stop profiles area aligned. The TP(G) profile expands downwards. For applications with double glazing * the glass sheet must not exceed more than 40 mm the rubber C11CX to avoid thermal glass break.

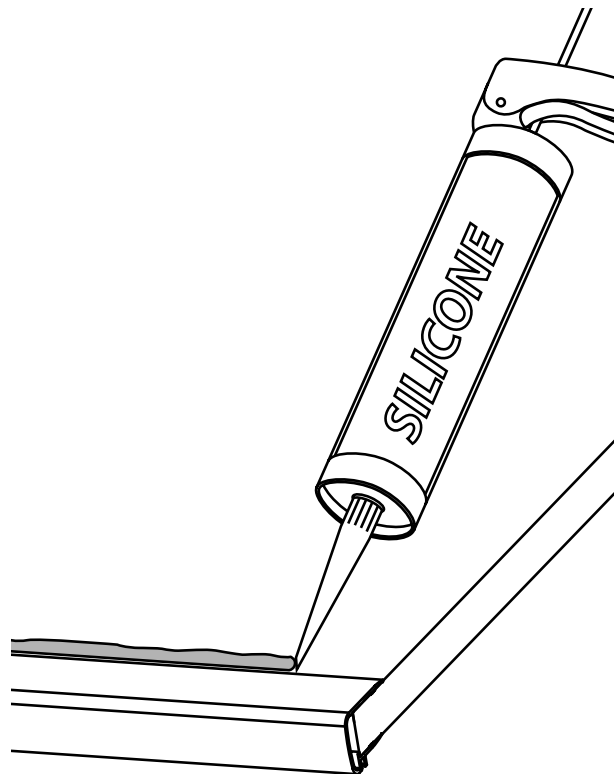
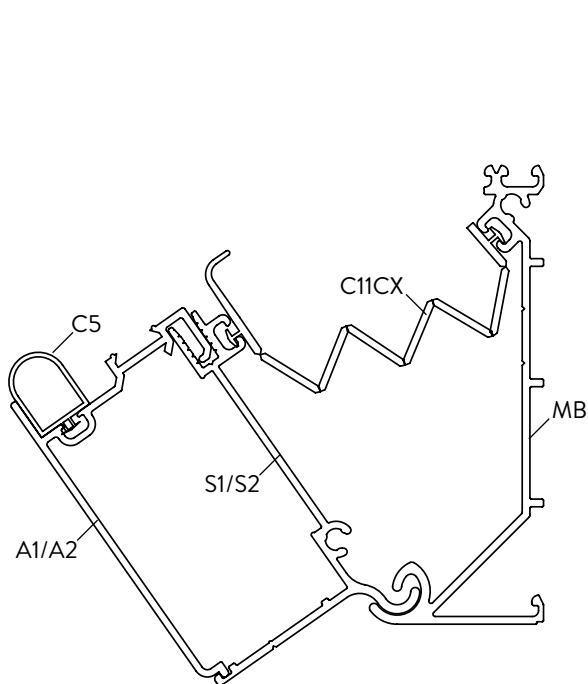
Glazing: plastic sheets

Preparation

	gutter	GD1+G
Glazing		GD2+G
Plastic sheets		5° - 45°

Only the left and/or the right sheet are cut to size. Provide the open ends with suitable plastic tape (closed tape BT on the top side = wall side and perforated tape BB on the bottom side = gutter side). Ensure each sheet has a end profile on the gutter side. Check whether the end profile is perforated at the bottom. This is required for proper water drainage. Ensure that the UV-protected side of the sheet is always upwards. For more information on the processing, installation and maintenance of plastic sheets see pages 16 & 18.

Assembly



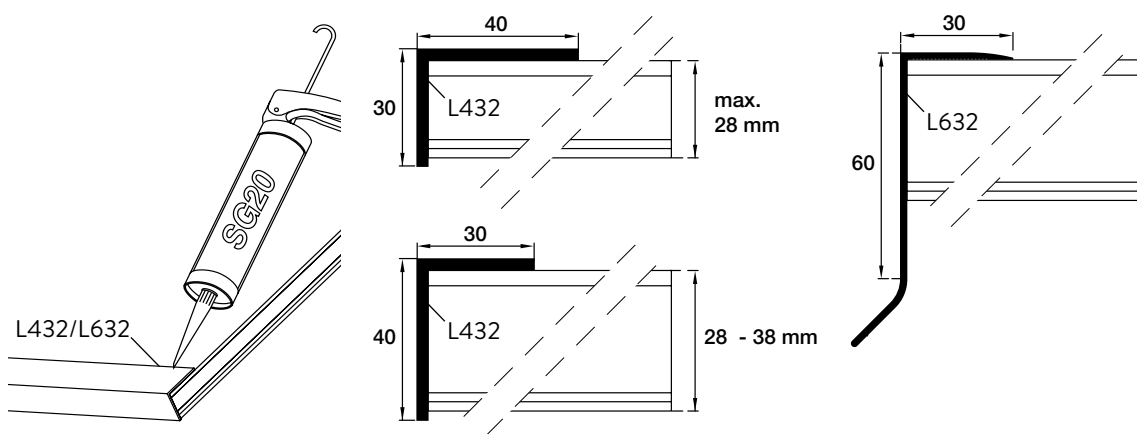
Check the length of spacers A1/A2. The length of the spacers must match the distance between the supports. Slide seal C5 in the appropriate recess of spacers A1 or A2. The spacers fit into the hinge profile between the supports. Position the glazing between the sheet supports with the end profile against the stop profiles on the gutter side. Ensure to leave 5 mm clearance at each side.

Apply a silicone sealant that does not affect plastic material at the upper edge of the end profile. 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.

Glazing: glass sheets

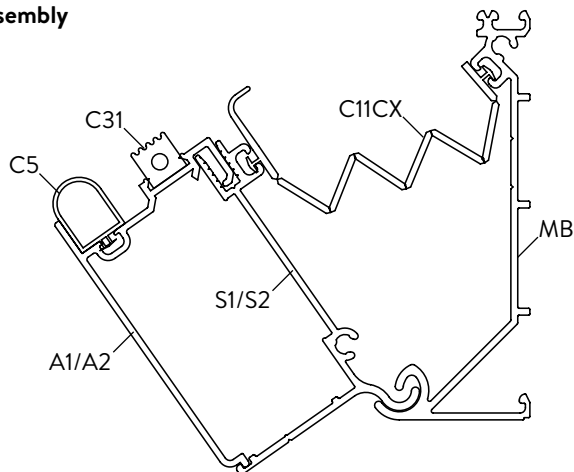
Preparation

	gutter	
Glazing		GD1+G GD2+G
Glass		5 - 45°



Always use laminated glazing in your conservatory 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 for this.

Assembly



Check the length of spacers A1/A2. The length of the spacers must match the distance between the supports. Slide seal C5 into the groove and push support seal C31 into the cut-aways of spacers A1 or A2. The spacers fit into the hinge profile between the supports. The glazing is, therefore, supported on four sides. Position the glazing between the sheet supports with the end profile against the stop profiles on the gutter side. Ensure to leave 5 mm clearance at each side.

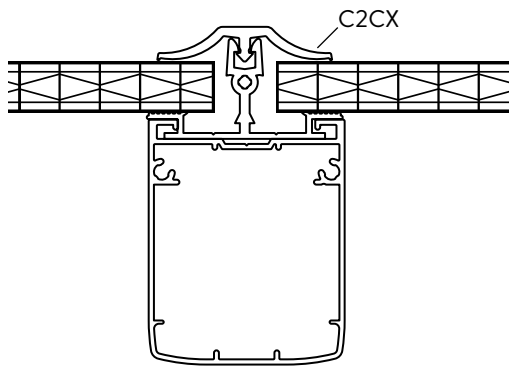
Glazing connection

When the glazing (plastic sheets or glass) consists of multiple parts, the parts can be connected using glass connection profiles GVB and GVT. Specific installation instructions are provided on pages 82 & 83

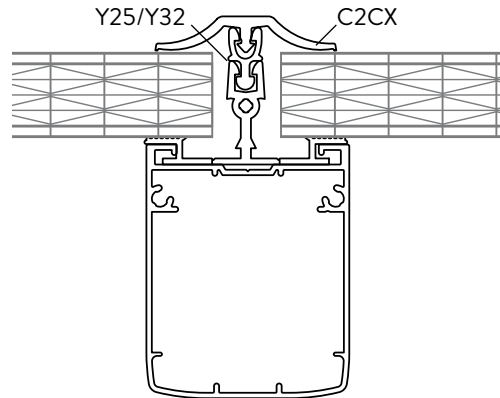
Finish

SUPPORTS

SEAL FINISH



Finish using seal C2CX for plastic sheets or glass: The glazing thickness and options are provided in the table on page 83.

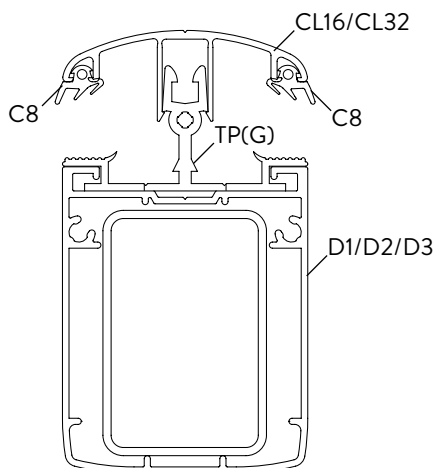


Push seal C2CX into sheet support TP(G) or into raised profile Y25/Y32.

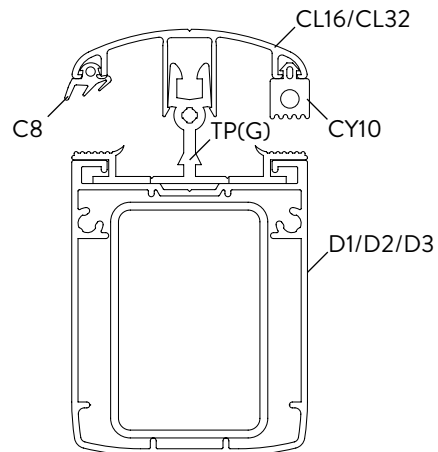
CLIP FINISH

For plastic sheets or glass: the glazing thickness and options are provided in the table on page 83.

Standard clips



CL16 for 16 mm thick sheets or glass.
CL32 for 25 or 32 mm thick sheets or glass.



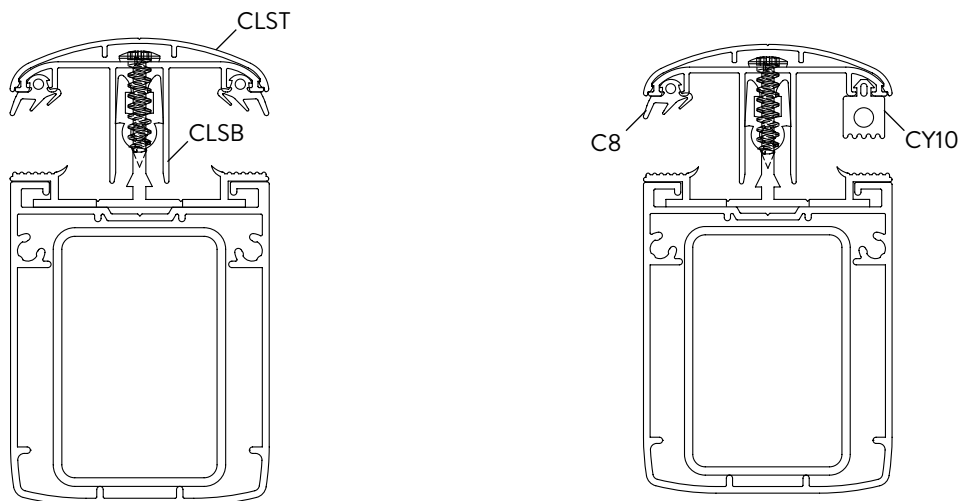
Push seal C8 or CY10 on both sides into the clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing. CL16 and CL32 are fastened with the clips to sheet support TP. The clips are fastened manually using a rubber hammer and a plank. Ensure the clips are not dented.

Finish

SUPPORTS

Screw-in type clips

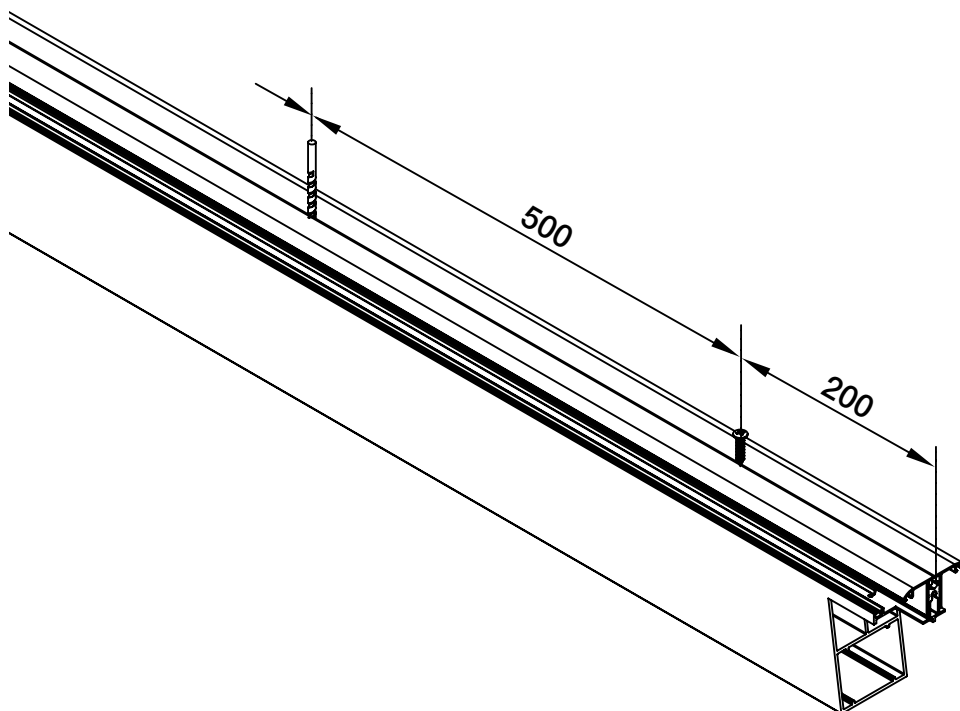
For plastic sheets or glass: The glazing thickness and options are provided in the table on page 83.



The screw-in type clips consist of 2 parts:

- CLSB lower clips
- CLST upper clips

Push seal C8 or CY10 on both sides into the CLSB clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing.



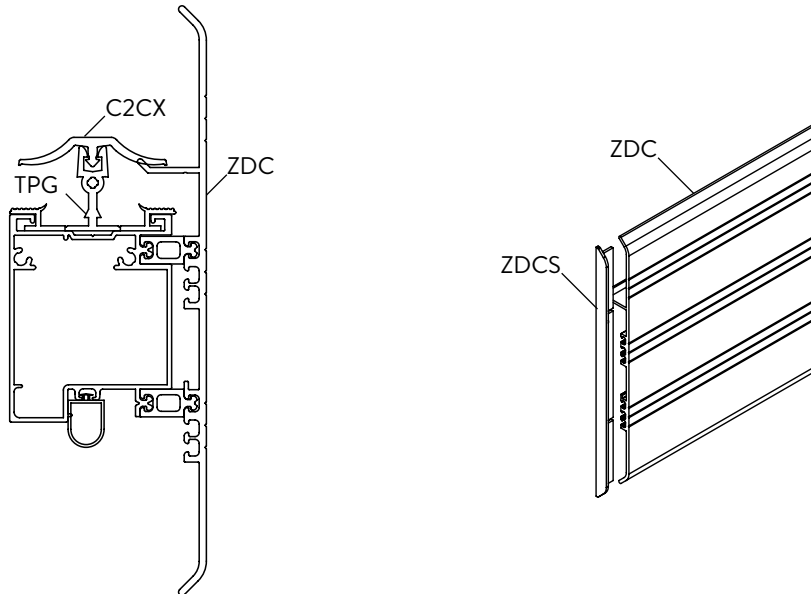
Drill holes with a \varnothing of 5.5 mm in the CLSB every 500 mm, starting and ending at 200 mm from the ends. Fasten the CLSB to the TPG using adapted Hi-Lo screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Either single screws and/or adaptor profiles Y10/Y25 must be used depending on the glazing thickness (see the table on page 83). The CLST clips must be fastened manually using a seal hammer and a plank. Ensure the clips are not dented.

Finish

SIDE SUPPORTS WITH RUBBERS

Finish using seal C2CX for plastic sheets or glass:
The glazing thickness and options are provided in the table on page 83.

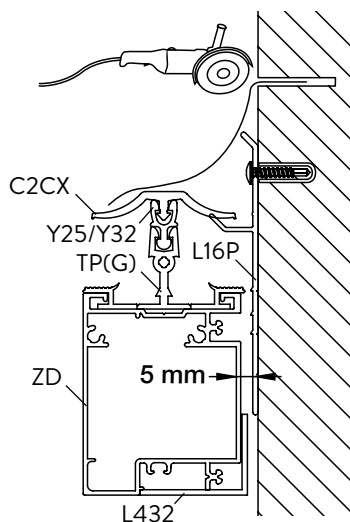
For freestanding side support:



Push seal C2CX into sheet support TP(G) or into raised profile Y25/Y32. The seal is supported by the lip of side finish profile ZDC.

Install finish profile ZDCS at the crosscut side of the side finish profile ZDC using silicone.

For a side support against a wall:



Measure the length of the wall up to the stop profile. Cut side finishing profile L16P obliquely in accordance with the roof pitch (a). Position the L16P profile between the support and the wall to ensure that the support lip is at the same height as the top side of the glazing. Fasten the top lip of the L16P profile every 100 cm against the wall. Push seal C2CX into sheet support TP(G) or into raised profile Y25/Y32. The seal lip will be supported by side finish profile L16P.

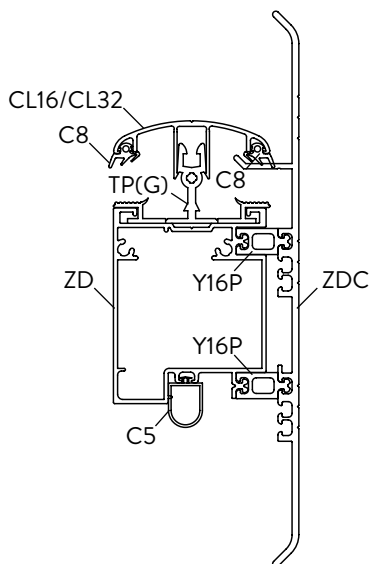
Finish

FREESTANDING SIDE SUPPORTS WITH CLIPS

Finish using clips for plastic sheets or glass:

The glazing thickness and options are provided in the table on page 83.

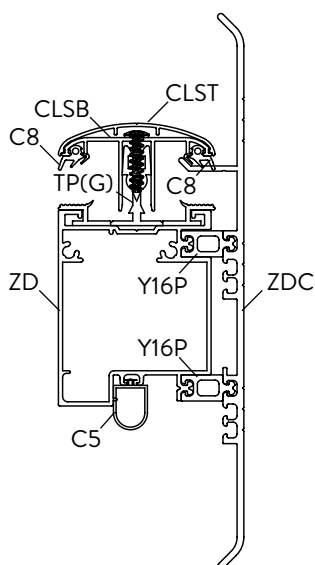
Standard clips (for plastic sheets of glass with a thickness of 16, 25 or 32 mm):



CL16 for 16 mm thick sheets or glass. CL32 for 25 to 32 mm thick sheets or glass.

Push seal C8 or CY10 on both sides into the clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing. CL16 and CL32 are fastened with the clips to sheet support TP. The clips are fastened manually using a rubber hammer and a plank. Ensure the clips are not dented.

Screw-in clips (for plastic sheets or glass with a thickness between 8 and 34 mm):

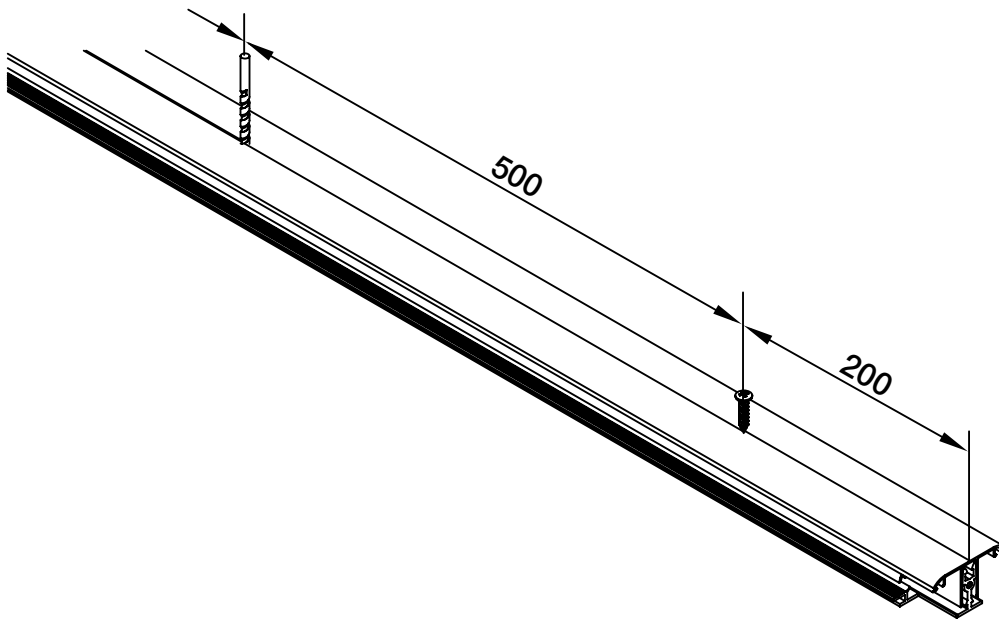


CLSB + CLST for plastic sheets or glass with a thickness between 8 and 34 mm.

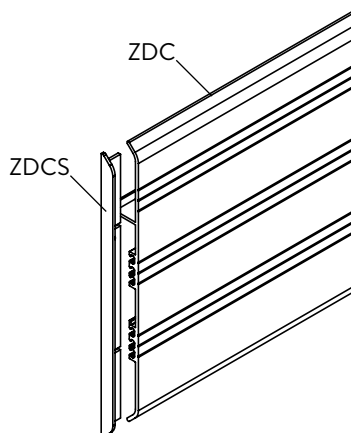
Push seal C8 or CY10 into the CLSB clips. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing.

Finish

FREESTANDING SIDE SUPPORTS WITH CLIPS



Drill holes with a \varnothing between 5.5 and 6 mm in the CLSB every 50 cm, starting and ending at 20 cm from the ends. Fasten the CLSB to the TPG using adapted Hi-Lo screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Either single screws and/or adaptor profiles Y10/Y25 must be used depending on the glazing thickness (see the table on page 83).

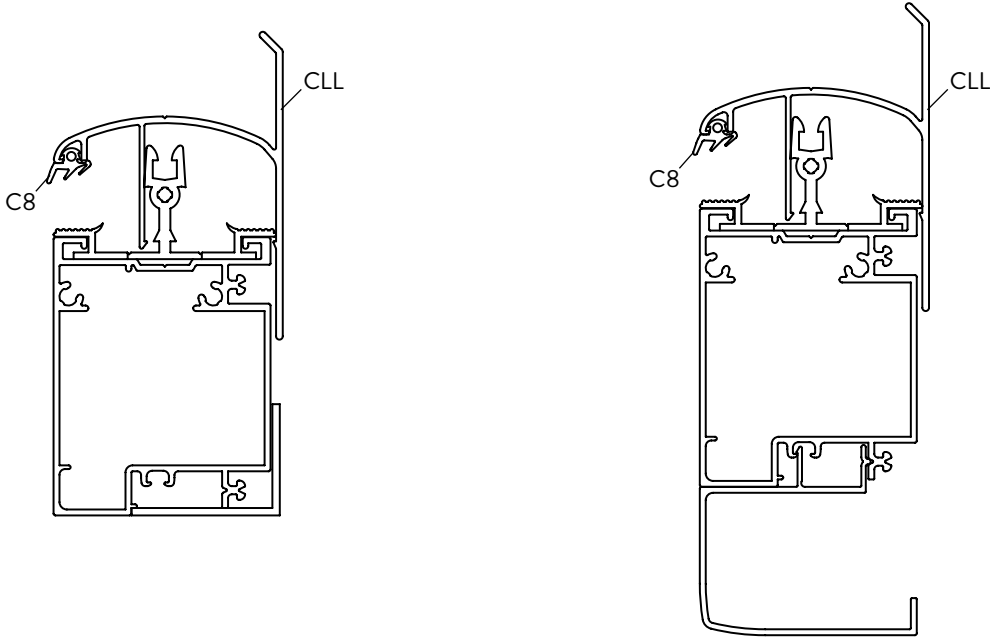


Install finish profile ZDCS at the crosscut side of the side finish profile ZDC using silicone.

Finish

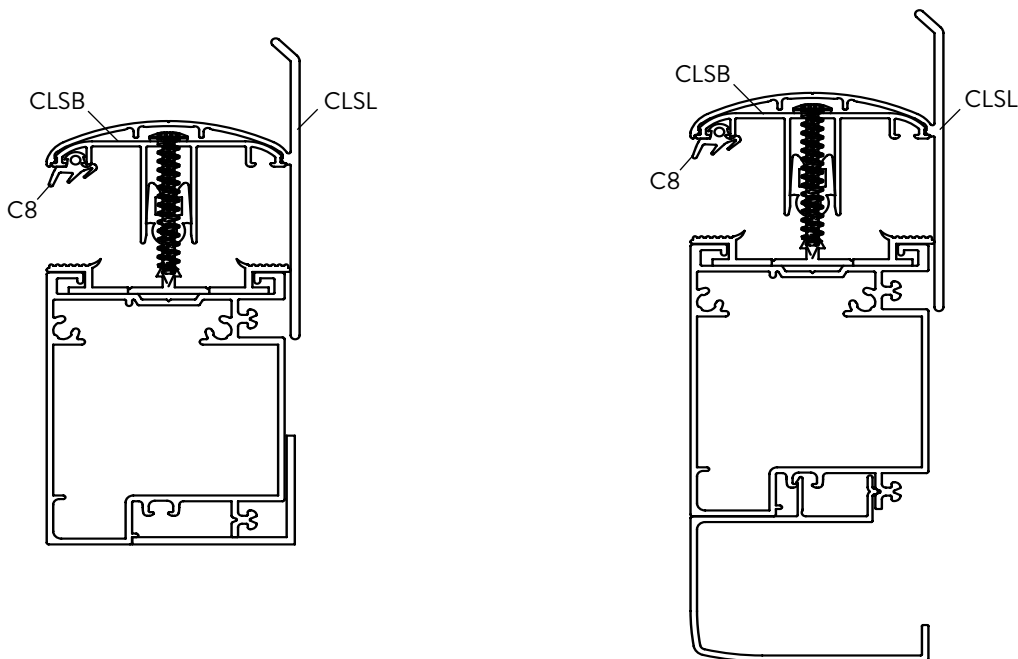
SIDE SUPPORT AGAINST THE WALL WITH CLIPS

Standard clips (for plastic sheets of glass with a thickness of 16.25 or 32 mm):



CLL for 16, 25 or 32 mm thick plastic sheets or glass.
Push seal C8 or CY10 into the CLL. Ensure that seal C8 does not continue up to the end of the gutter side but to the end profile on the glazing.

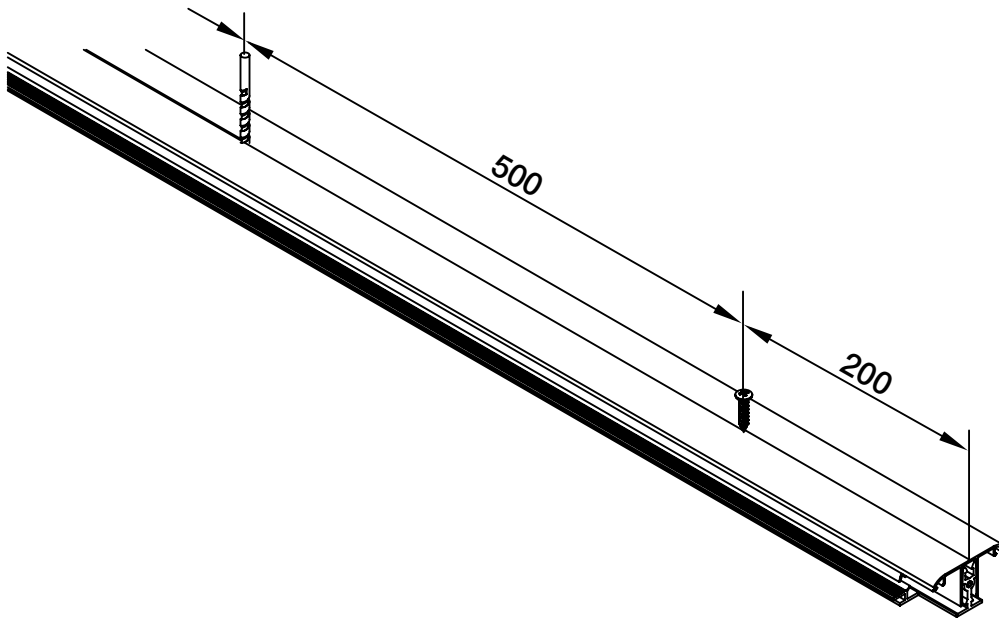
Screw-in clips (for plastic sheets or glass with a thickness between 8 and 34 mm):



CLSB + CLSL for 8 to 34 mm thick plastic sheets or glass.
Push seal C8 or CY10 into the CLSB clips. Ensure that seal C8 does not continue up to the end of the gutter side, but to the end profile on the glazing.

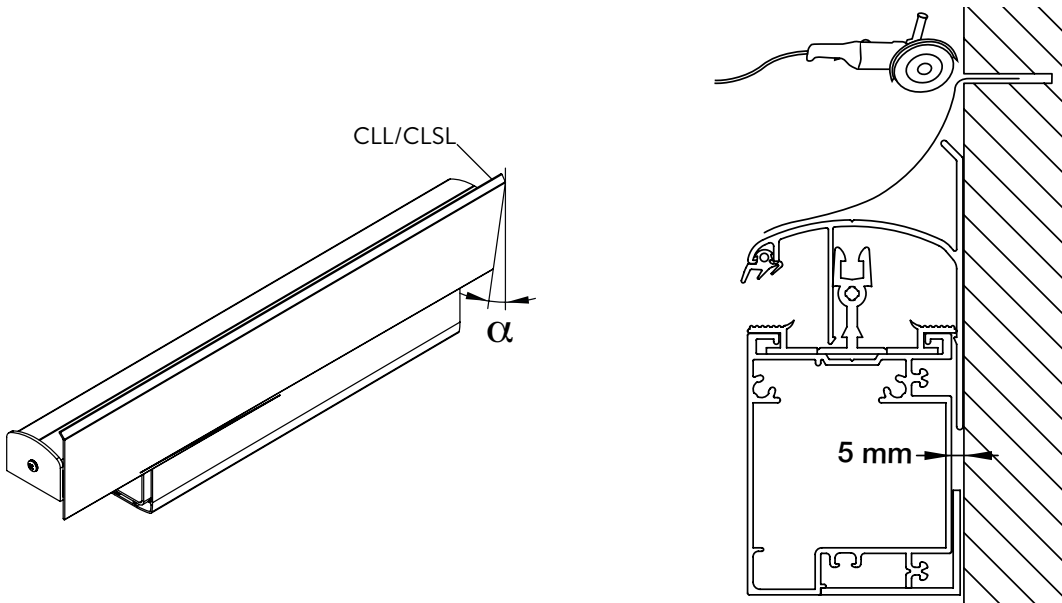
Finish

SIDE SUPPORT AGAINST THE WALL WITH CLIPS



Drill holes with a \varnothing between 5.5 and 6 mm in the CLSB every 500 mm, starting and ending at 200 mm from the ends.

Fasten the CLSB to the TPG using adapted Hi-Lo screws. Fasten perpendicularly and use a slight torque to ensure the screw head is pressed flat against the CLSB. Either single screws and/or adaptor profiles Y10/Y25 must be used depending on the glazing thickness (see the table on page 83). The clips are fastened manually using a rubber hammer and a plank. Ensure the clips are not dented.

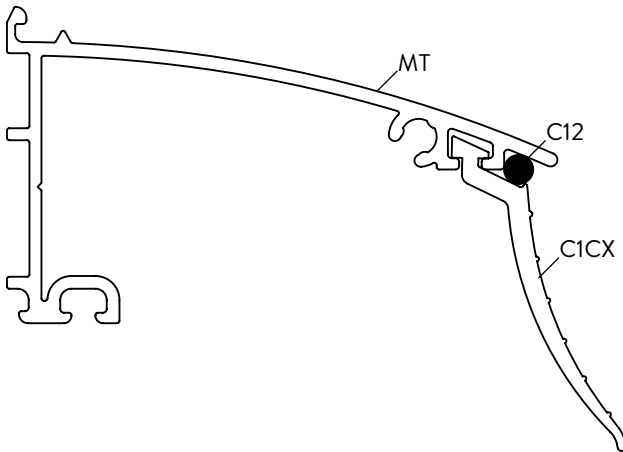


Cut profile CLL/CLSL at a slant on the wall side based on the roof pitch. Measure the distance to the stop profile to determine the length of profile CLL/CLSL. Position profile CLL/CLSL on the outside against the support profile. Fasten CLL/CLSL every metre sideways against the wall.

Install a lead slab or zinc flashing as a finish.

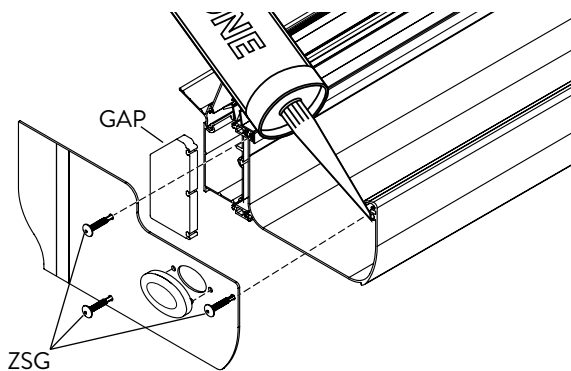
Finish

WALL PROFILE

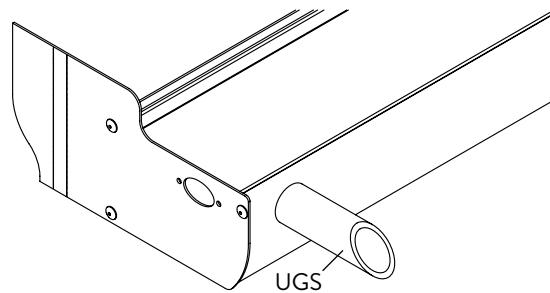


Position seal C12 to increase the pressure of C1CX on the glazing.

GUTTER



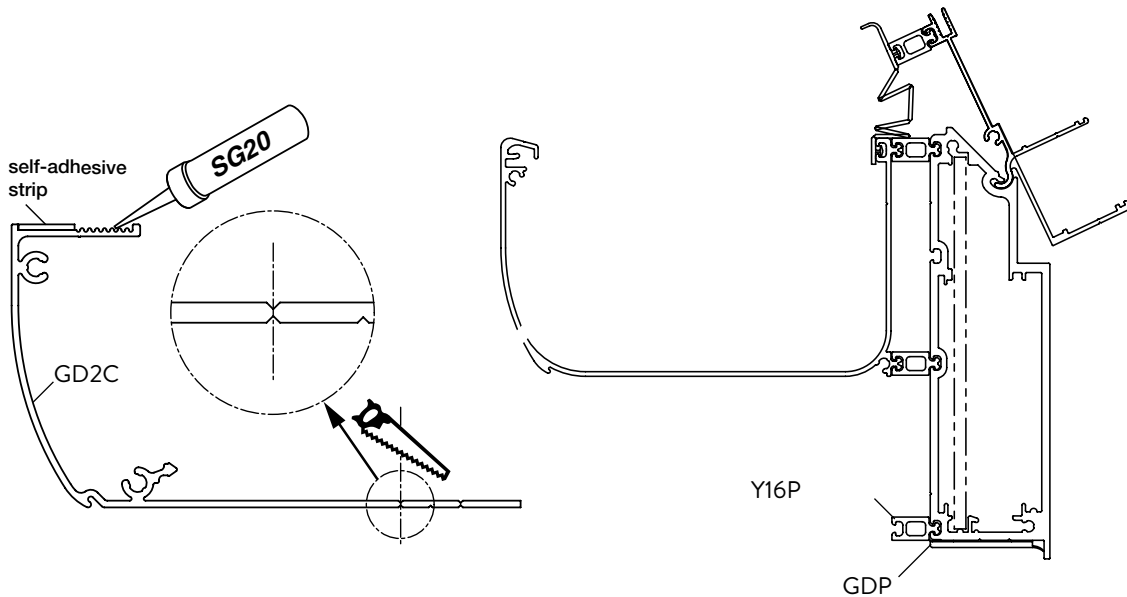
Install the end panels and click the plastic plug in the corresponding holes. Install the thermal break GAP between the gutter rafter and the end panel. Apply a silicone sealant to the interior of the end panel.



A frontal UGS water outlet is required to ensure the water can flow outside when the water drainage is obstructed if the gutter has a wall on both sides. Drill an opening with a \varnothing of at least 33 and no more than 35 mm at the front of the gutter. This opening should be lower than the overflow in the gutter end panels.

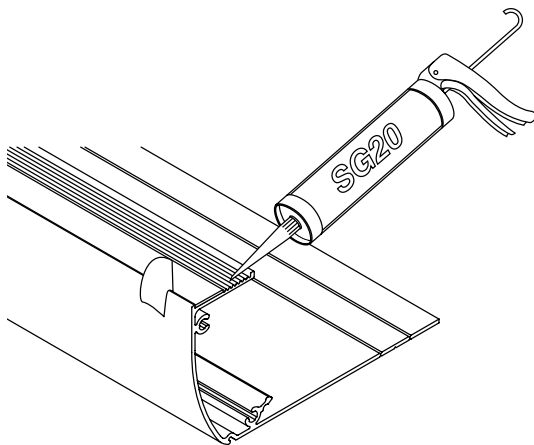
Finish

GUTTER GD2

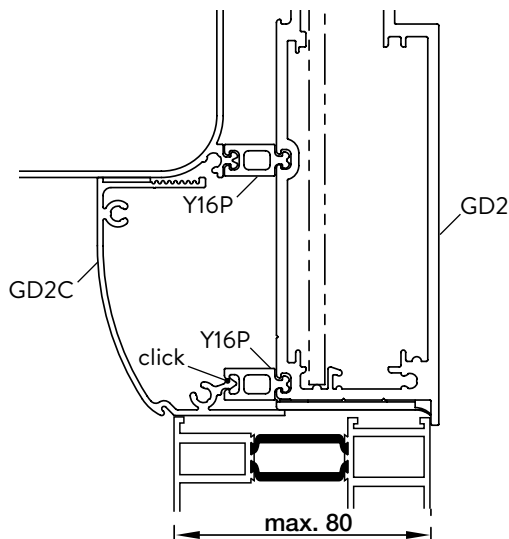


Gutter support GD2 is finished with GD2C. The GD2C must be cut lengthwise to max 80 mm, up to the thermal break of the window profile which comes underneath the gutter profile. The length of GD2C matches the distance between the walls and/or posts. For window profiles > 80 cm (for example, sliding doors) the length of GD2C must be cut at a length equal to the distance between the walls and/or posts.

The GDP thermal bridge must be cut at a length equal to the distance between the walls and/or posts. Remove the adhesive strips. Position the GDP against the bottom side of the gutter support as indicated.



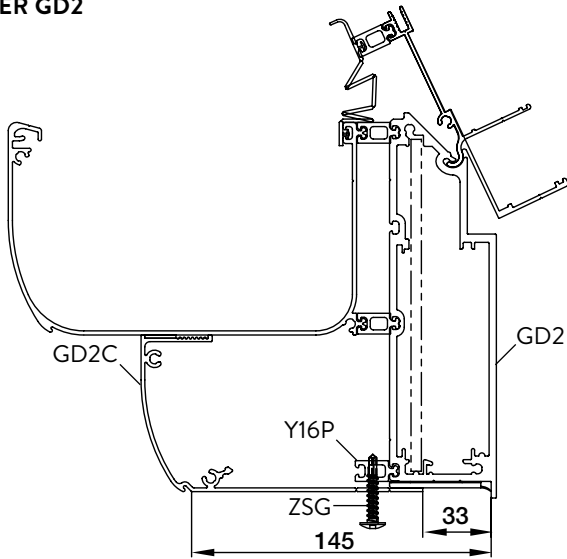
Add SG20 silicone adhesive over the complete length of the ribbed zone. Free the ends of the adhesive strip and fold these outwards.



For window profiles up to 80 mm: clip the detail of the GD2C in plastic profile Y16P. Once it is in the correct position, free the adhesive strip completely and push the GD2C against the gutter. Make sure the GD2C profile does not exceed the thermal break of the window profile.

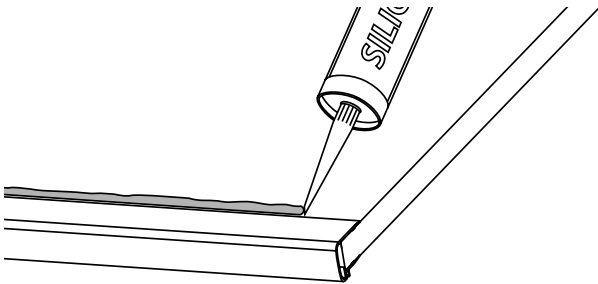
Finish

GUTTER GD2



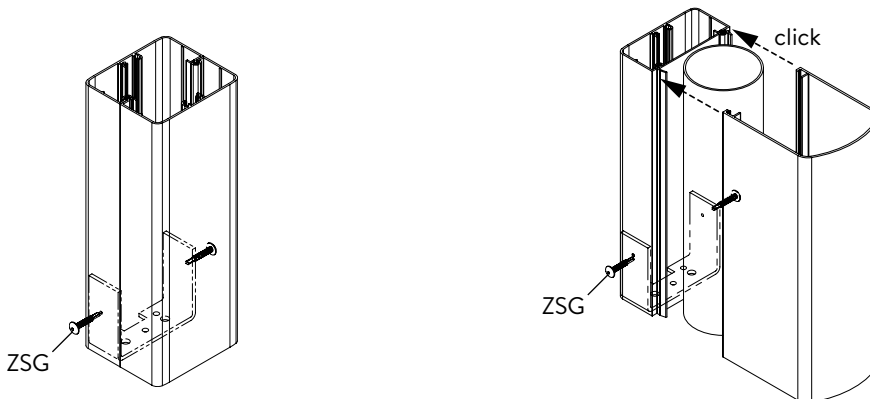
For window profiles > 80 mm: screw GD2C into the central indication line using coated screws ZSG in plastic profile Y16P. Once it is in the correct position, free the adhesive strip completely and push the GD2C against the gutter. Make sure the GD2C profile does not exceed the thermal break of the window profile.

GLAZING



Do not forget to apply sealant to the end profiles on the plastic sheets on the gutter side.

POSTS



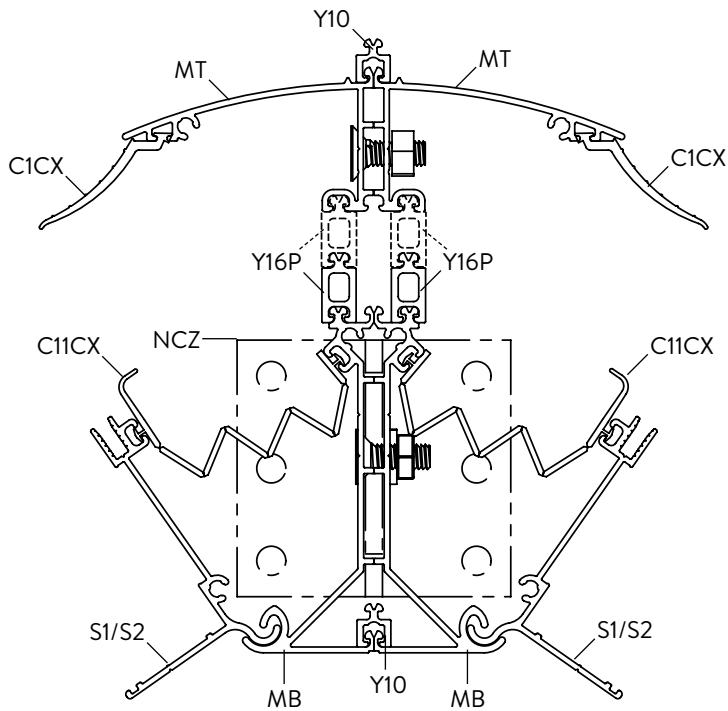
Check whether the posts are completely vertical (level) and fasten each top and bottom section in the U-brackets using coated ZSG screws. Pre-drill holes with a 3 to 4 mm Ø to avoid damaging the coating.

Add the water outlet pipe and connect it to the rainwater drain pipe. Install the PC cover clips to the post.

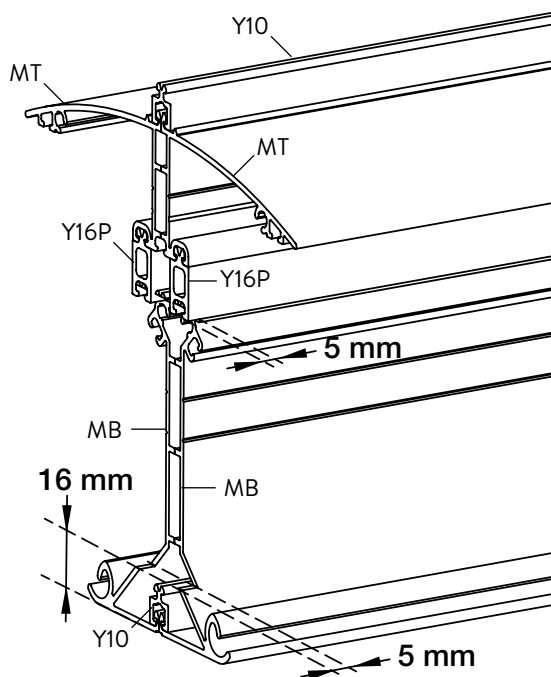
Specific instruction tips for the
saddle roof
Climax system

Ridge for saddle roof

PREPARATION



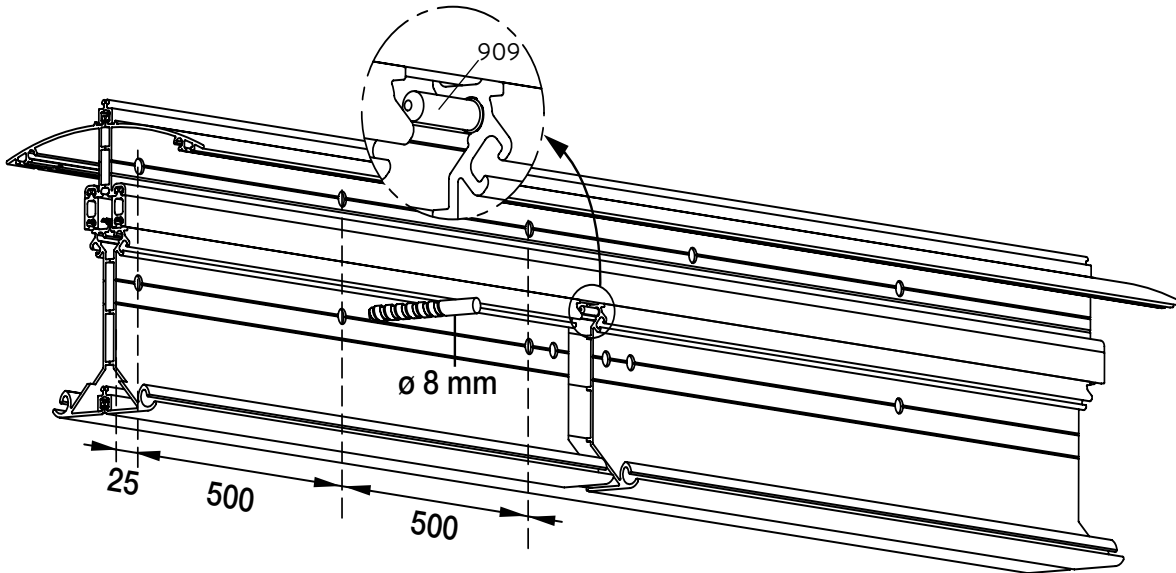
The ridge of the saddle roof must be attached to at least one wall. Check all dimensions. These can be found in pages 12 and 13 of this manual. The assembly of the ridge profiles is identical for a thermal and a non-thermal saddle roof. The ridge can be created using two sets of wall profiles (MB-MT-Y16P) that are assembled back-to-back using adaptor profiles (Y10). The number of thermal bridges (Y16P) between the bottom wall profile (MB) and the top wall profile (MT) depends on the glazing thickness and the roof pitch (see the table on page 14).



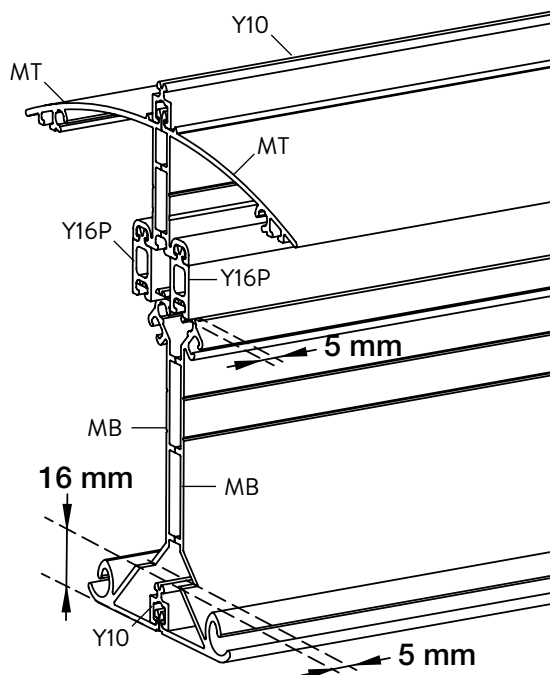
Cut 5 mm from the bottom wall profiles for the ridge support bracket (NCZ). Connect the wall profiles at the bottom and at the top using the adaptor profiles (Y10).

Ridge for saddle roof

PREPARATION



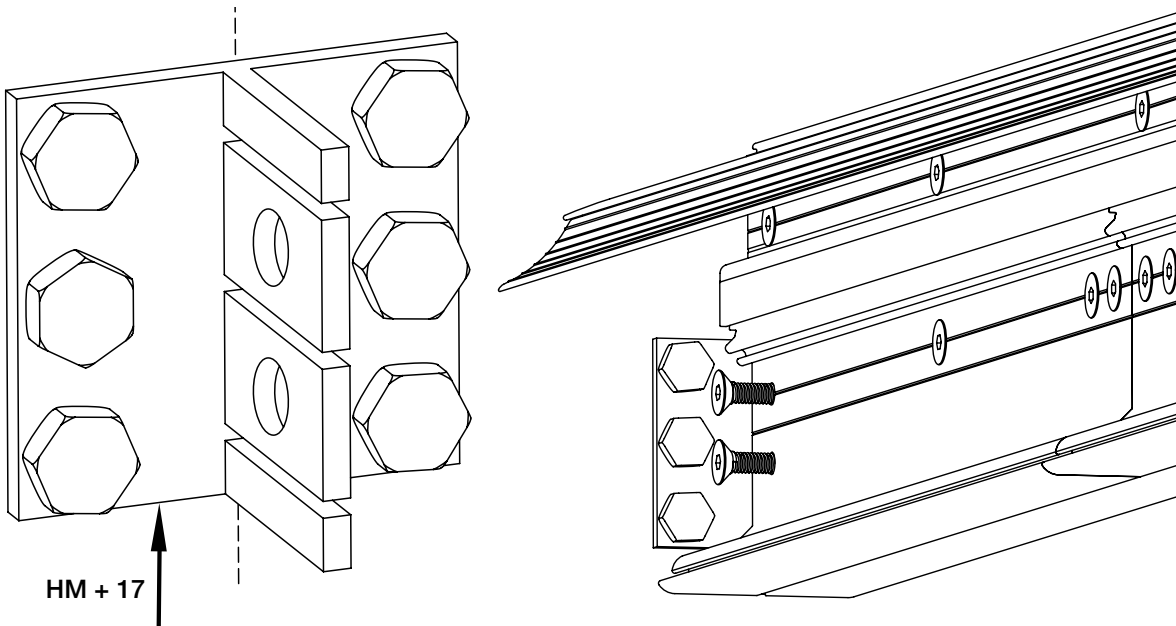
Drill a hole ($\varnothing 8$ mm) every 500 mm in the indicator line of the bottom and top wall profile and fasten the profiles back-to-back using the bolts in the fixing sets (BMR). When the ridge profile consists of multiple lengths, the profiles must be slanted. Use the connection pins (909) to connect the profiles. When the top wall profile (MT) is discontinuous, the connection at the bottom must be sealed using self-adhesive aluminium tape (not supplied). 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 ($\varnothing 8$ mm) at the indicated locations. Slide the seal (C1CX) in the top wall profiles (MT).

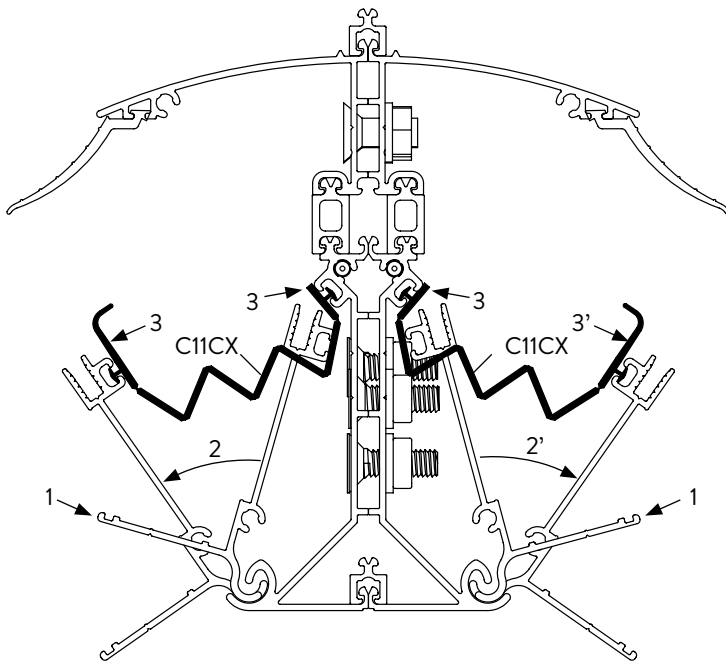
Ridge for saddle roof

ASSEMBLY



Install the ridge support bracket (NCZ) to the wall. 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 material 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.

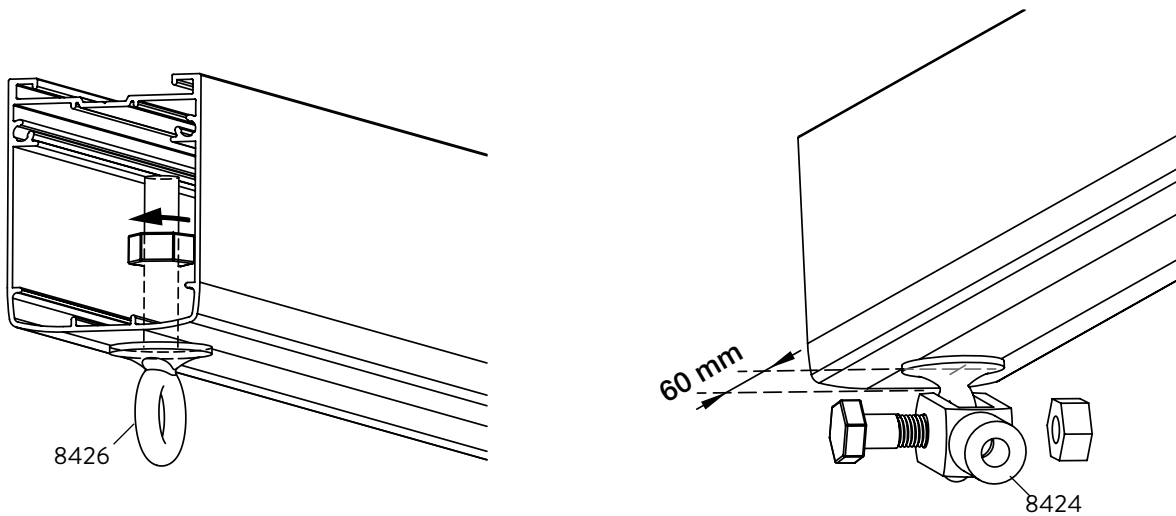
Slide the assembled ridge profile on to the ridge support bracket (NCZ) and anchor these using 2 fixing sets (BMR). Support the ridge profile until the roof has been fully installed.



Install the hinge profiles (S1 or S2) to the bottom wall profiles (MB) (1). Depending on the slope 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 bridge Climax saddle roof, the seal (C11CX) must be installed at both sides (3) between the wall profile and the hinge profile.

Tie bar for saddle roof

PREPARATION

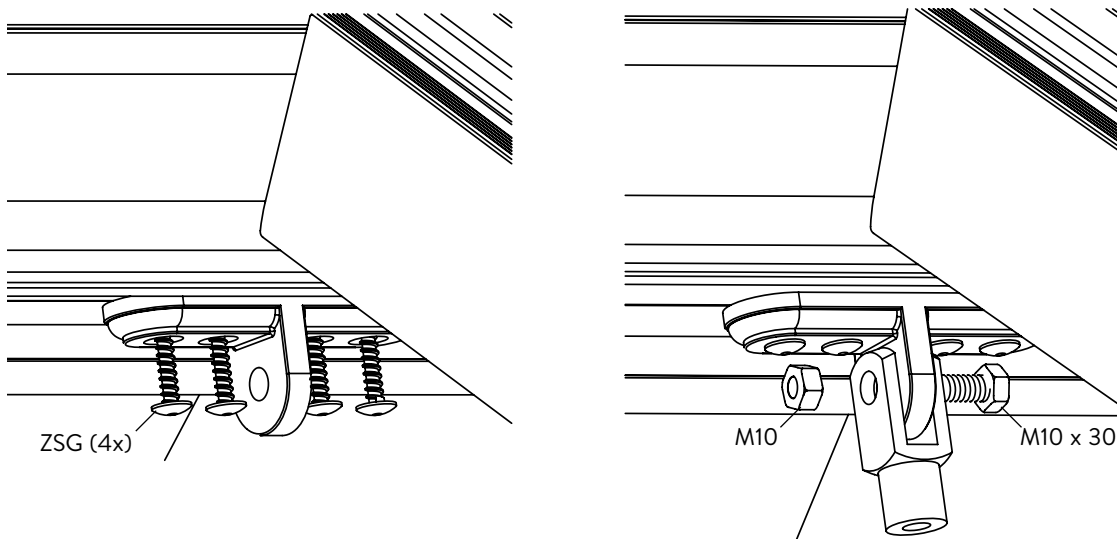


To guarantee the stability of the saddle roof, a tie bar must be installed for every 2 supports. With a non-thermal bridge Climax saddle roof, you must also use a tie bar set at the open end.

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

See the specific installation tips for the Climax single-pitch roof in this manual for information on the assembly of the gutter, posts and (side) supports. Non-thermal, pages 21-41 and thermal, pages 42-67.

ASSEMBLY

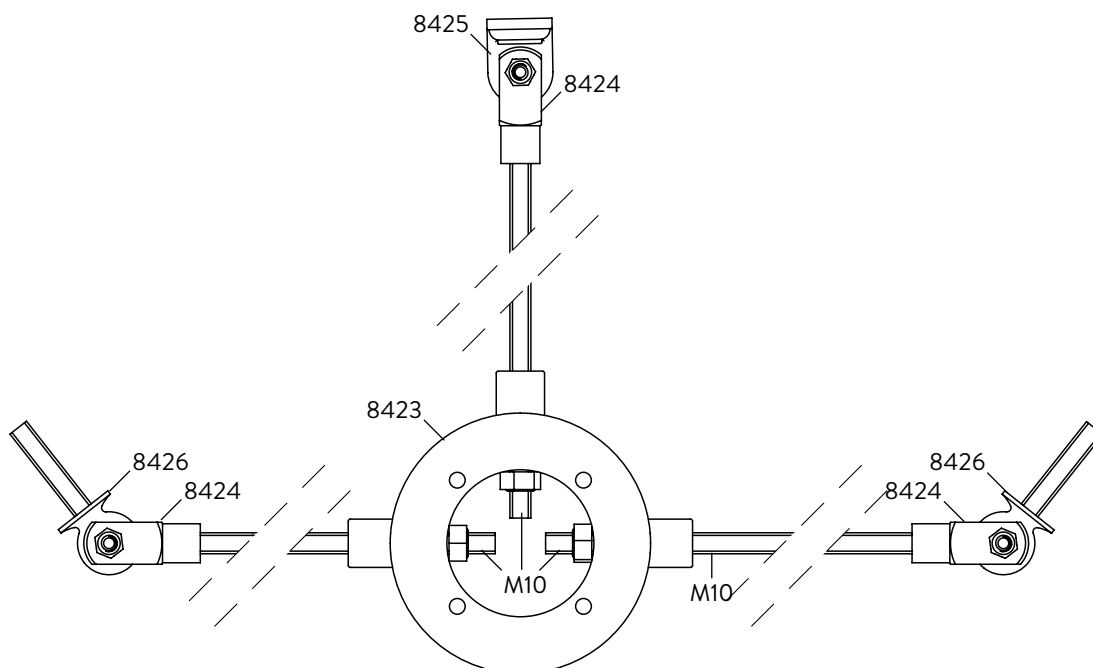


The tie bar must be installed when all supports have been installed and before you install the glazing. Screw the ridge fixing to the bottom side of the ridge between 2 supports using an eye bolt. Fasten the ridge fixings to the ridge using screws (ZSG).

Install the threaded bar ends to the eye bolts using the stainless steel bolts (M10 x 30 mm) and the safety nuts (M10).

Tie bar for saddle roof

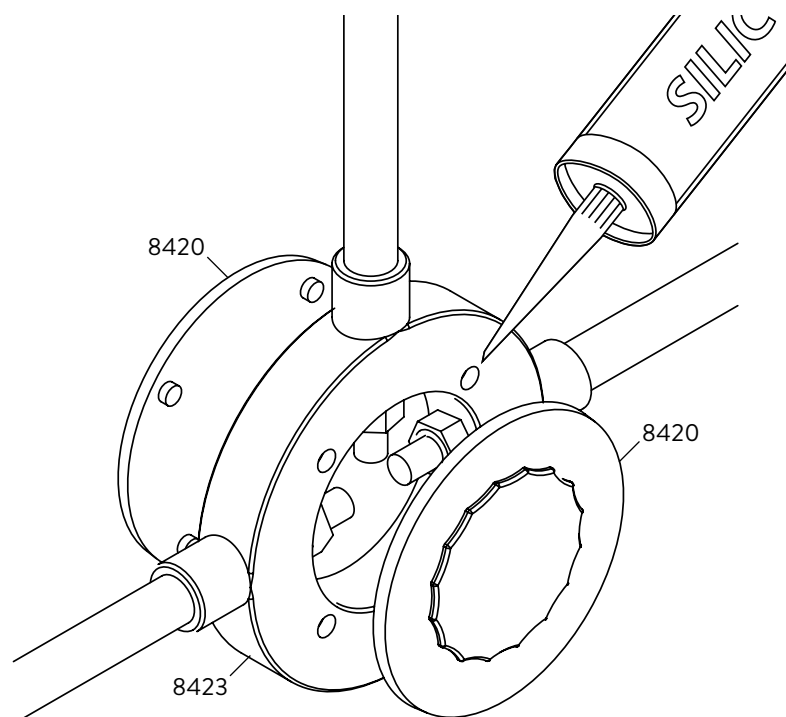
ASSEMBLY



Measure the length of the threaded bars towards the ring and cut this to size. The ring can be positioned using the bolts (M10) to ensure a horizontal connection between the supports.

When you are certain about the position, you can cut the coated tube to size and slide it over the threaded bars.

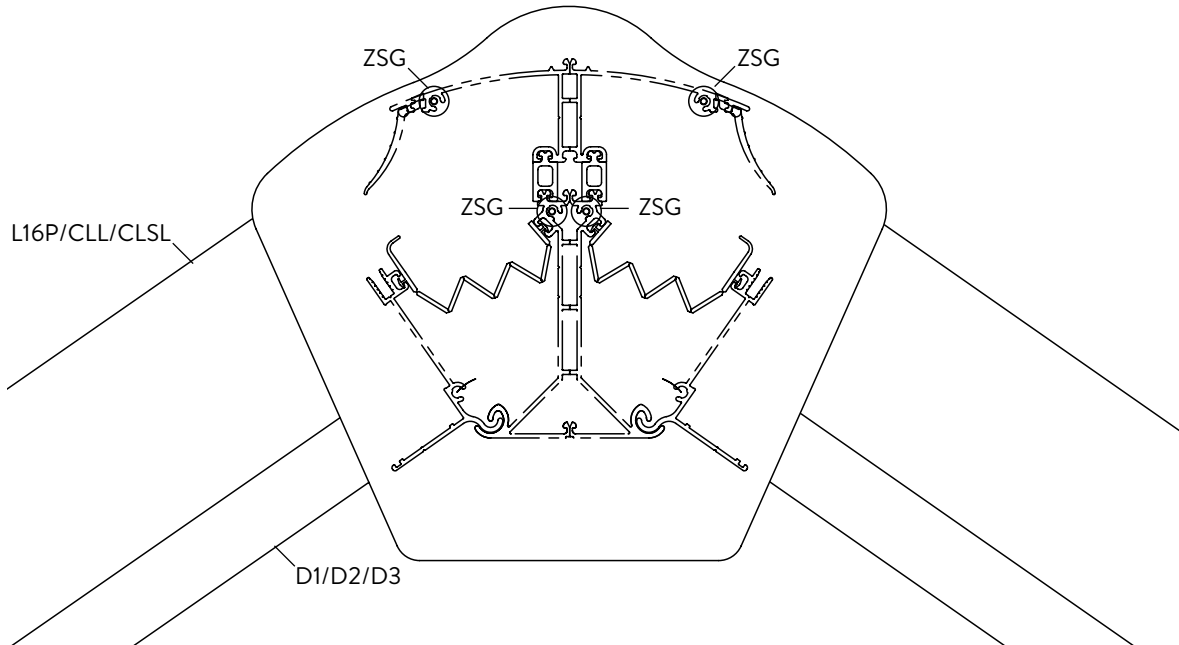
Only remove the support from the ridge profile when the roof has been entirely finished. If necessary, you can still adjust the draw set by using the bolts in the ring.



Position both rose covers (8420) over the ring (8423). Use silicone for this.

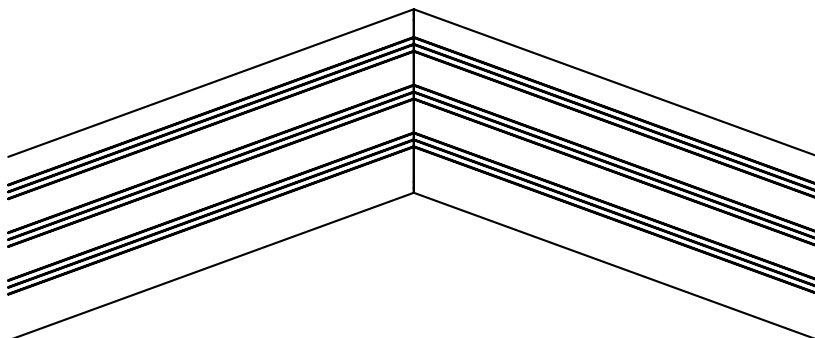
Side finish of saddle roof

NON-THERMAL BRIDGE SADDLE ROOF



The visible side supports 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 will be covered by the ridge end panel (NASZ). Use 4 coated screws (ZSG) for this.

SADDLE ROOF WITH THERMAL BRIDGE



The side finish of a thermal bridge saddle roof is completed with the ZDC that is slid over the side support (ZD) using the thermal bridge (Y16P). Cut the ZDC profiles to ensure they fit perfectly in the ridge.

Annex

load graphs and special applications

installation tips for the Climax system

Load graphs

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 (pages 77 & 78) and Climax roofs with single and double glazing (pages 79 & 80).

The maximum allowable bending is 1/200 (= 1 cm per 200 cm 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 (= 1 cm per 300 cm free span) with single or double glazing.

This is including 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 2.5 kg per m² and per mm thickness. Example: single glazing with a thickness of 8 mm weighs 8 x 2.5 = 20 kg/m². After converting into N/m² x factor 9.81, this results in 20 x 9.81 = 196.20 N/m². With double glazing, e.g. type 33.2/15/4, the cavity is 15 mm. The glazing measures 6 + 4 mm = 10 mm. This weighs 10 x 2.5 = 25 kg/m² or 245.25 N/m². Suppose the prescribed snow and wind load is 500N/m² and the glazing is 250 N/m², the total load would be approximately 750 N/m². In order to limit the weight of the glazing, the axis distance between the support profiles (AX) is limited to a maximum of 700 mm. The total width of the roof is divided into equal parts.

The bending of 1/200 or 1/300 is achieved with a maximum load. For example, a gutter support of 5000 mm with a maximum bending of 1/300 will bend 16.6 mm 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 sun blind 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 reinforcement profile (V642) can be part of the delivery. The other reinforcement profiles (PL165 and PL105) are not included in the delivery. This 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.be.

Load graphs for roofs with plastic sheets

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 5300 mm and a depth (D) of 3500 mm. The prescribed load is 500 N/m² (~50kg/m²). The roof is provided with multi-layer plastic sheets.

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

The graph now has two options:

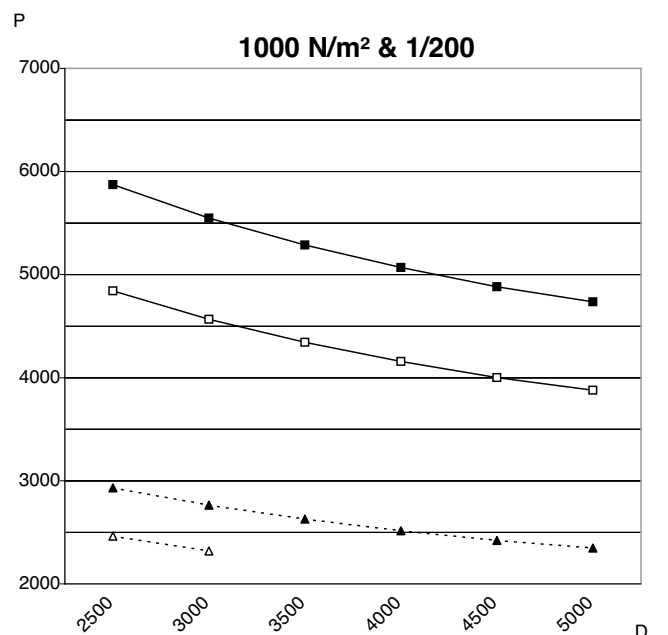
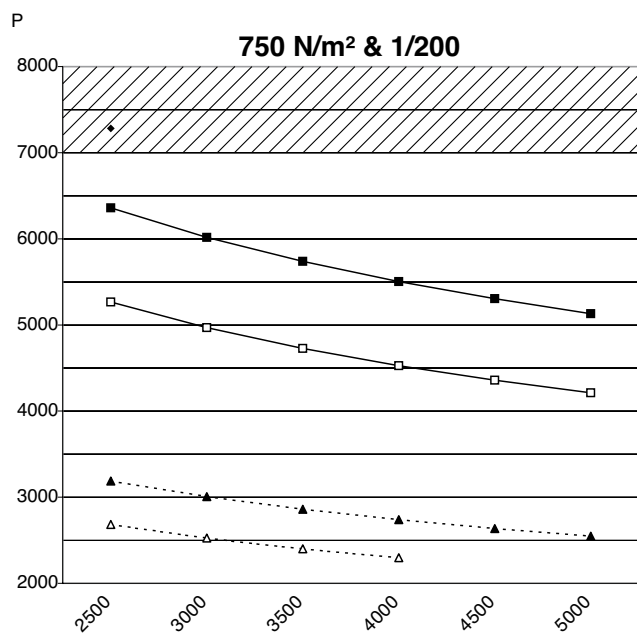
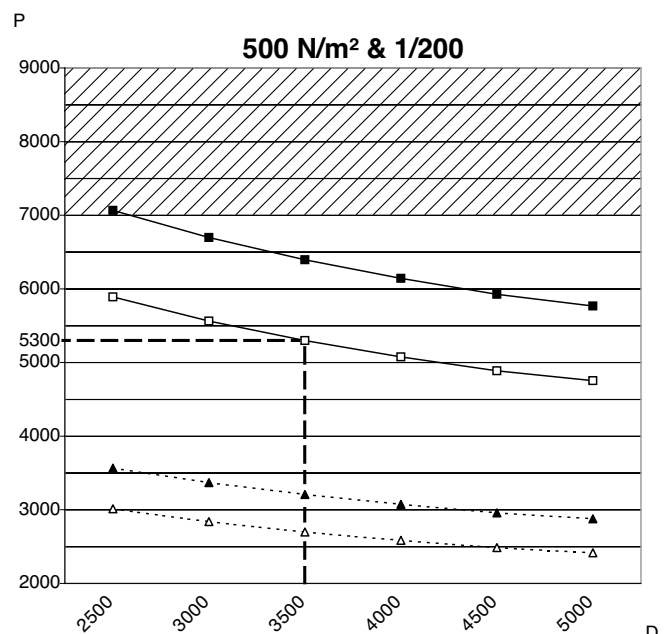
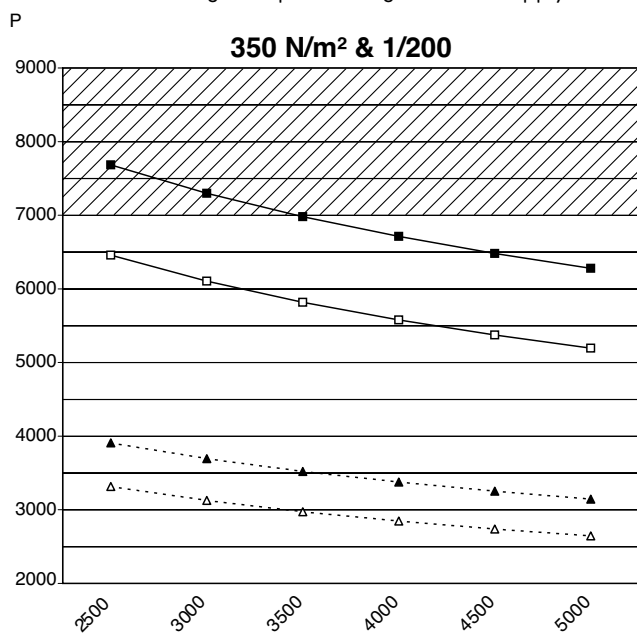
Either you select gutter support GD2 that will make allowances for a free span of 5300 mm.

Or you select gutter support GD1 that will make allowances for a free span of 2700 mm. 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 5500 mm where the free span (P) between the posts = 5500 – 2 x 100 = 5300 mm.

The bending in the middle with a load of 500 N/m² is 1/200 or 5300/200 = 26.5 mm. Less if unloaded

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



- △--- GD1
- ▲--- GD1 + V642
- GD2
- GD2 + PL165

Load graphs for roofs with plastic sheets

SUPPORT 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 1 cm for a free span of 200 cm. The **load** is related to the **snow and wind load**.

Practical example:

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

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

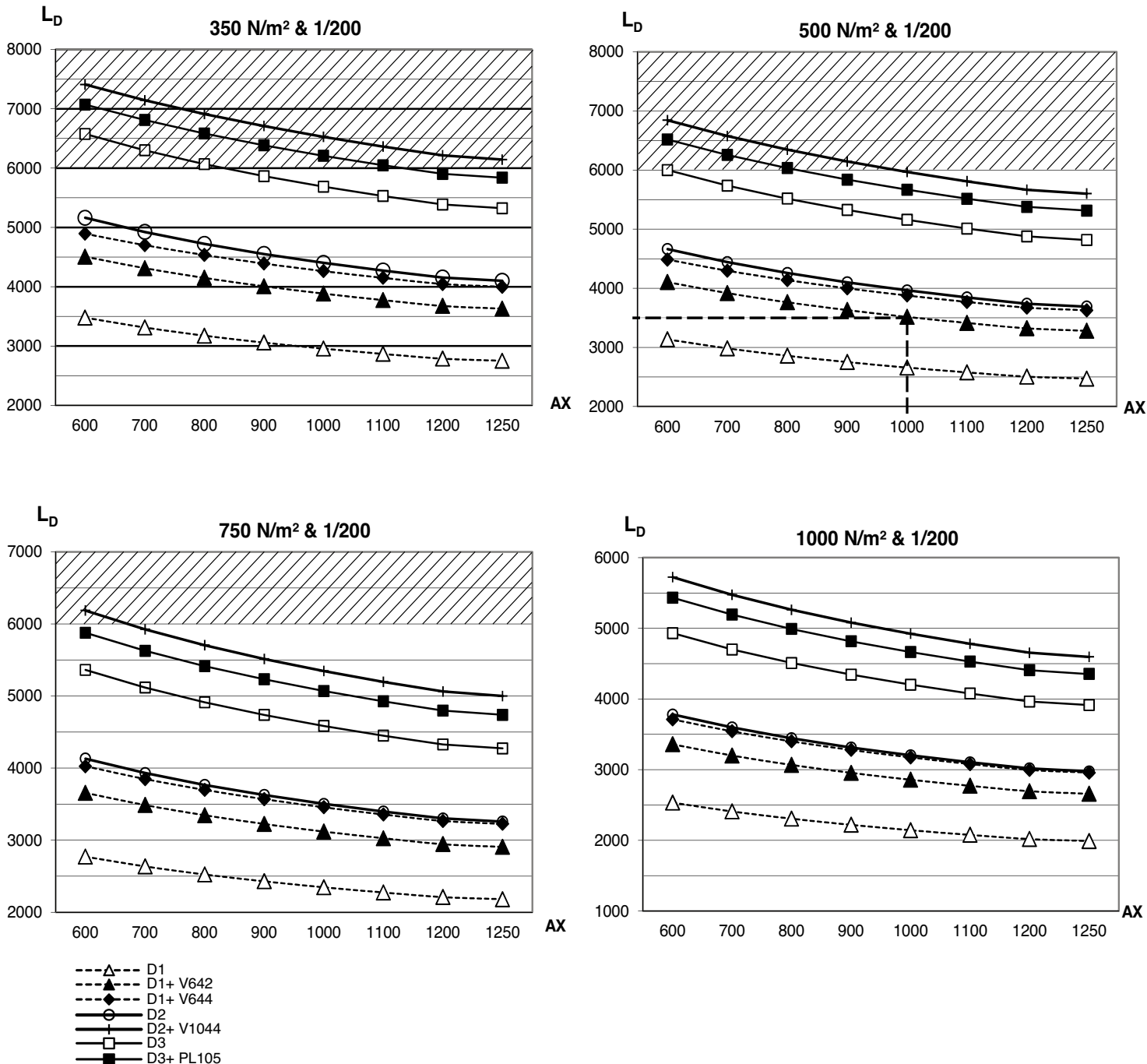
The graph now has two options:

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 17.5 mm. Less if unloaded

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



Load graphs for roofs with glazing

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 4600 m and a depth (D) of 3500 mm. The prescribed load is 500 N/m² (~50kg/m²). The glazing weighs 25 kg/m² (approximately 250 N/m²). The total load is 750 N/m².

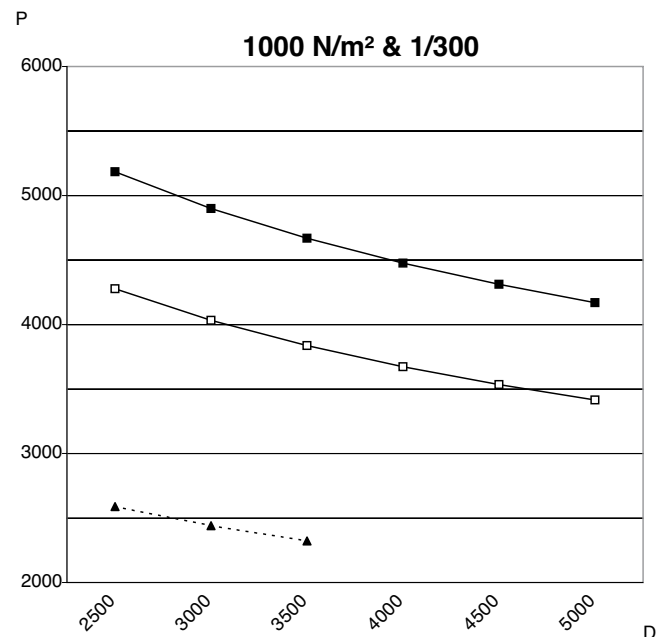
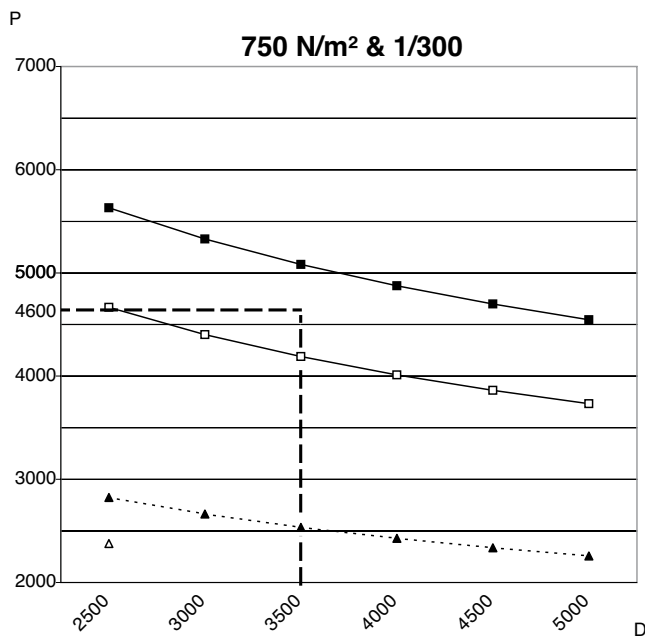
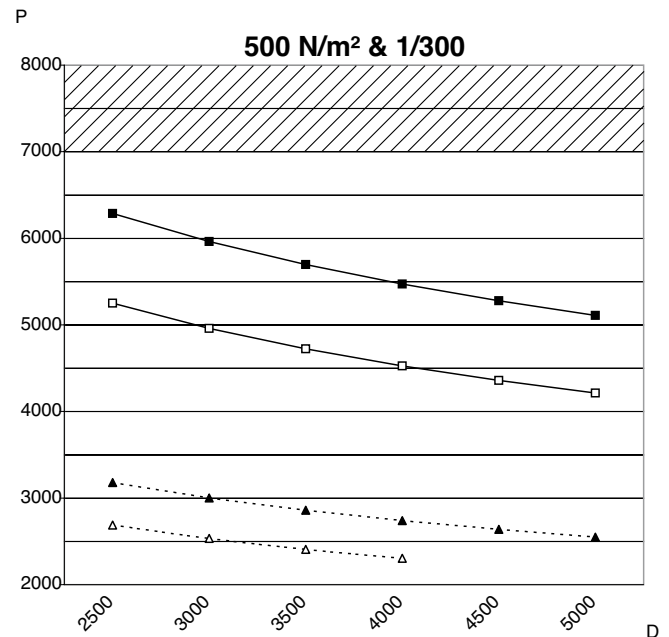
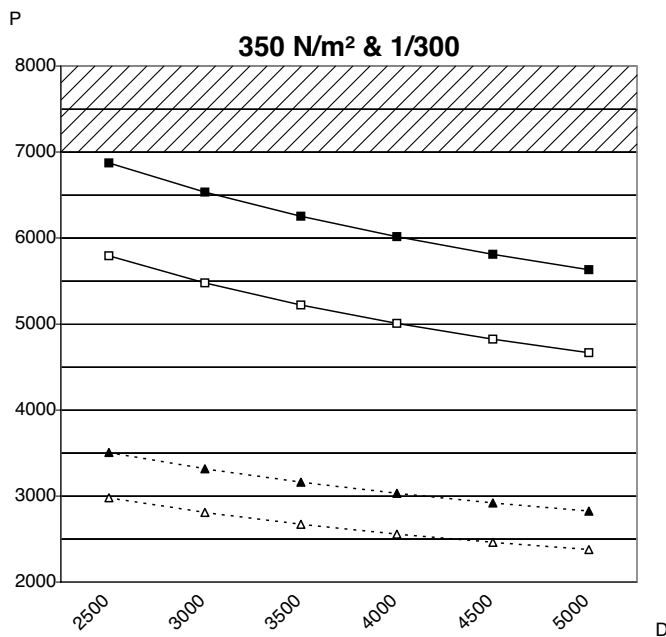
Determine the point in the “750 N/m² & 1/300” graph and select a gutter (support) that is above this point.

The graph now has two options:

Either you select gutter support GD2 with reinforcement PL165 that will make allowances for a free span (P) of up to 5080 mm. Or you select gutter support GD1 with reinforcement V642 that will make allowances for a free span of at most 2535 mm. You then install an extra post in the middle for support.

The maximum bending (1/300) in the middle with a load is 4600/300 = 15.3 mm. Less if unloaded

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



- △ --- GD1
- ▲ --- GD1 + V642
- □ — GD2
- ■ — GD2 + PL165

Load graphs for roofs with glazing

SUPPORT 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 1 cm for a free span of 300 cm. **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 650 mm. The depth (D) of the roof is 3500 mm. The support length is (LD) > depth D for a roof pitch > 10°. Take this into account. The prescribed load is 500 N/m² (~50kg/m²). The glazing weighs 25 kg/m² (approximately 250 N/m²). The total load is 750 N/m².

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

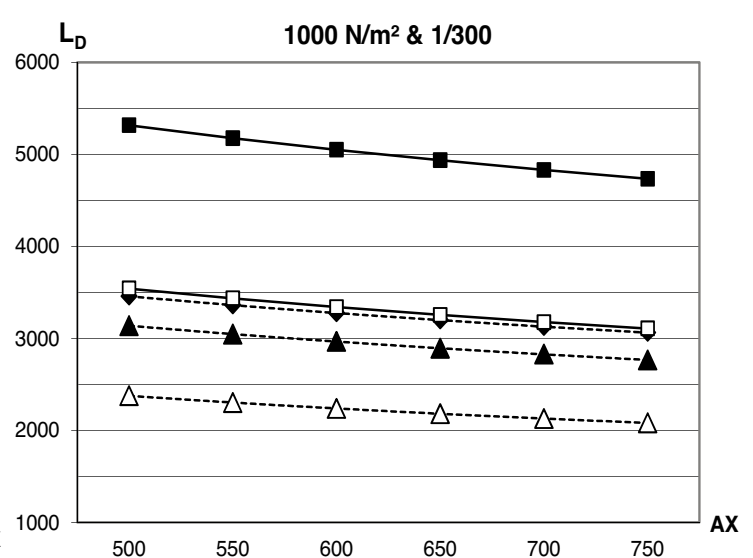
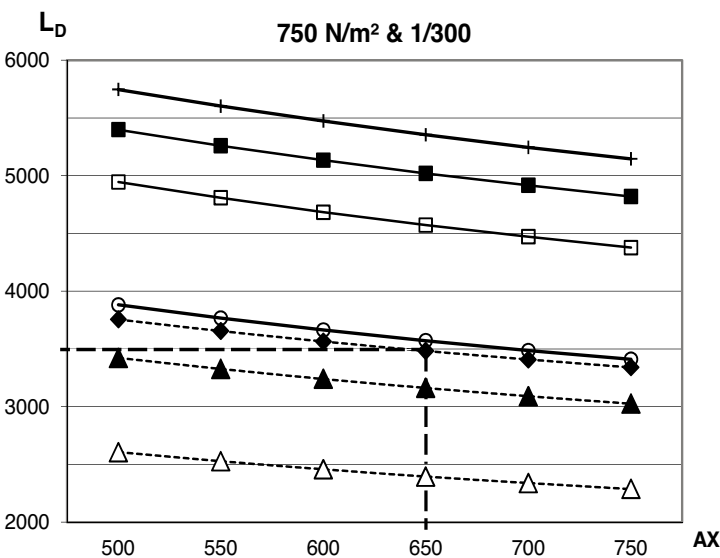
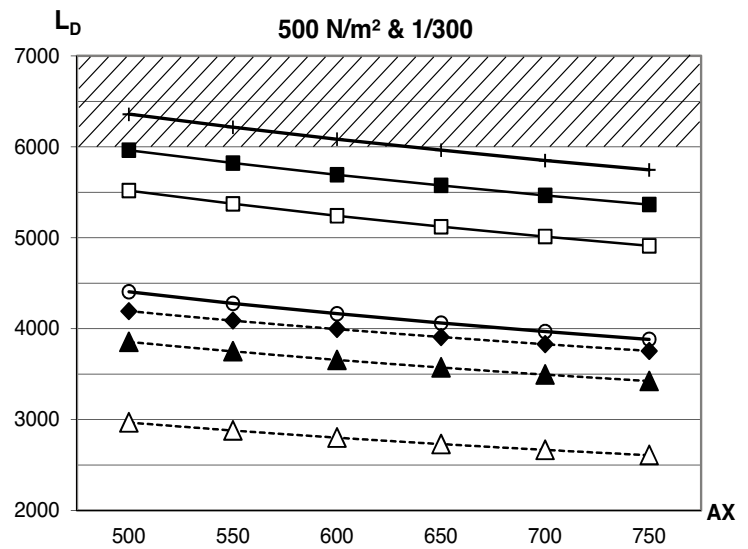
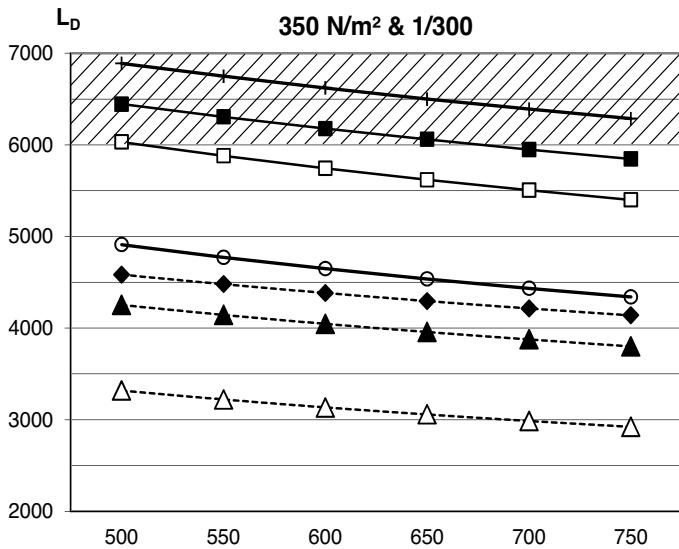
The graph now has two options:

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 = 12 mm. Less if unloaded

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

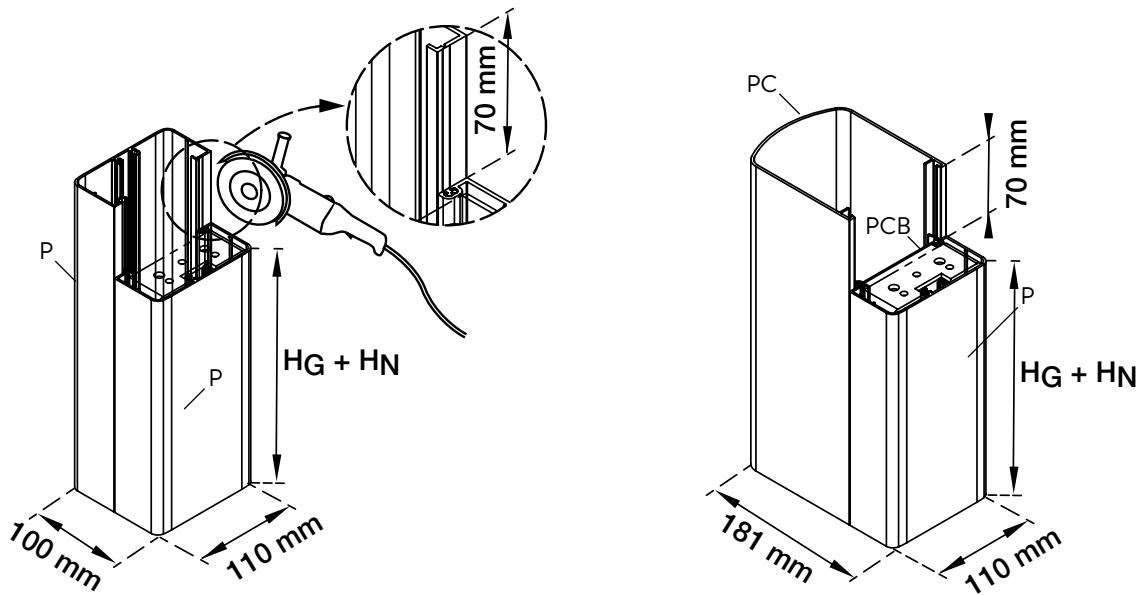


- △--- D1
- ▲--- D1+ V642
- ◆--- D1+ V644
- D2
- D2+ V1044
- D3
- D3+ PL105

Specific installation tips for posts

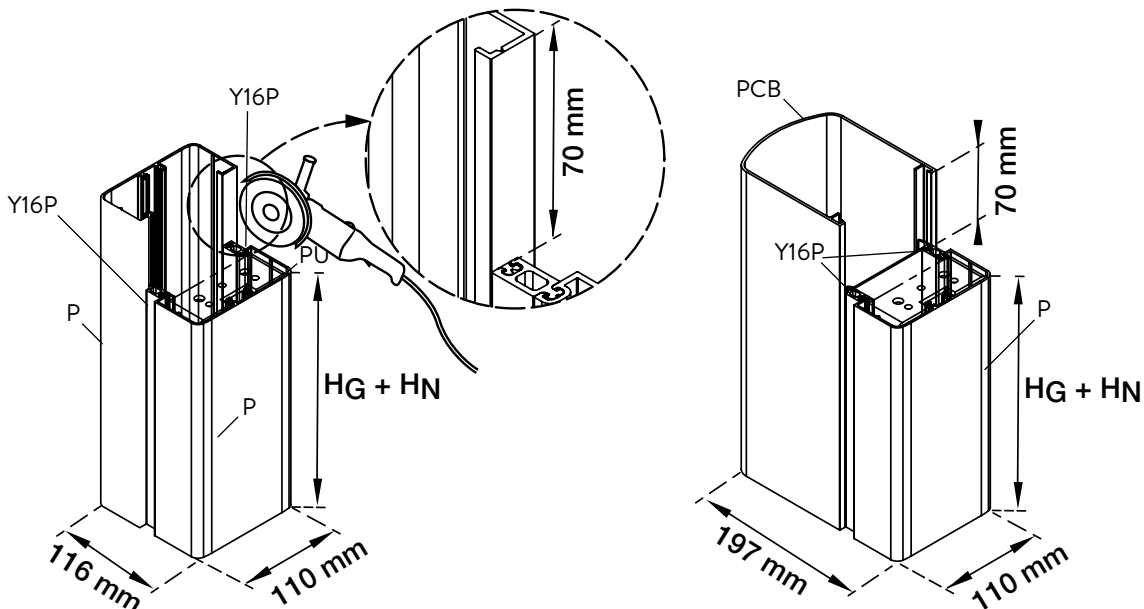
SUPPORT WITH POSTS FOR GD2

Without thermal bridge



The outer post section P or the post clip PC is 70 mm longer than the inner post section P in relation to assembled support posts (= HN + HG). The male sliding-in detail must be ground off over 70 mm for standard posts P + P 110/100. Position the posts over the PUs at the bottom.

With thermal bridge



The outer post section P or the post clip PC is 70 mm longer than the inner post section P in relation to assembled support posts (= HN + HG). The thermal bridges and post clip base PC have the same length as inner support post P. The male sliding-in detail must be ground off over 70 mm for thermal discontinuous posts P + P with Y16P 110/116. Put the posts over the PUs at the bottom.

For corner posts with a thermal bridge see the instructions on page 47

Specific installation tips for glazing connections

Application:

The glass connector is used for slanted 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.

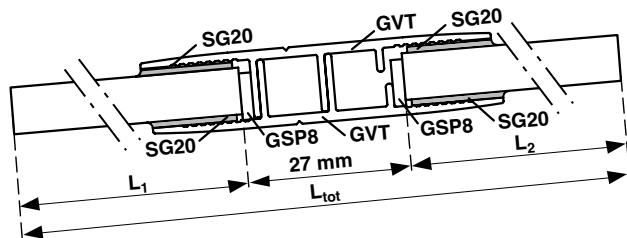
The following parts are used for a glass connection:

GVT top profile Y16P thermal bridge GSP 20 or GSP 8 buffer blocks
 Bottom profile GVB Adaptor profile Y10 Glass adhesive SG20

Assembly in relation to the glazing thickness:

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

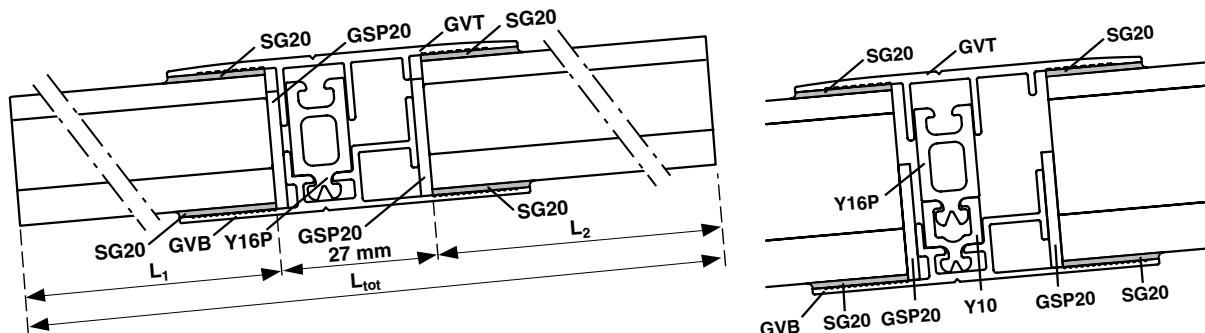
For glazing 8 - 21 mm GVT + GVT (single glazing)



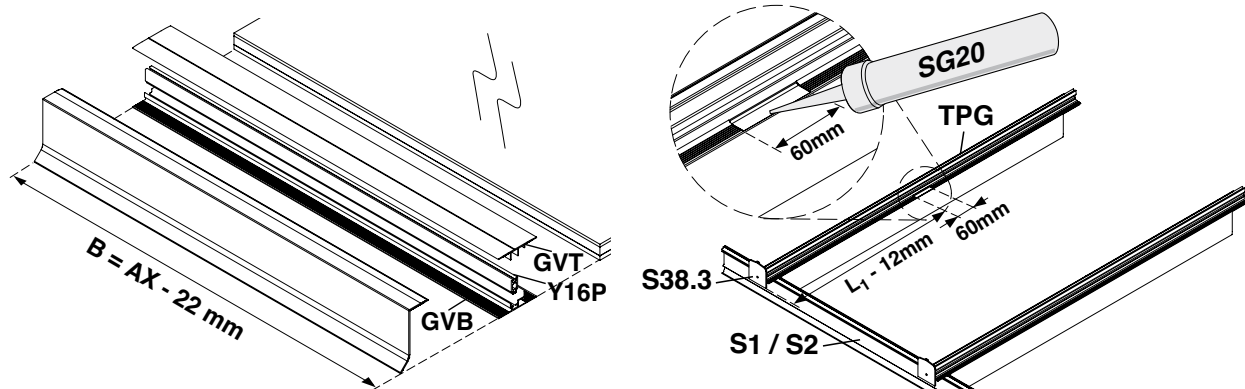
Glazing length:

$L_{tot} = L_1 + 27 \text{ mm} + L_2$
 L_{tot} = total length of glazing
 L_1 = length of the bottom glass sheet
 L_2 = length of the top glass sheet

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



Measurement and preparation:

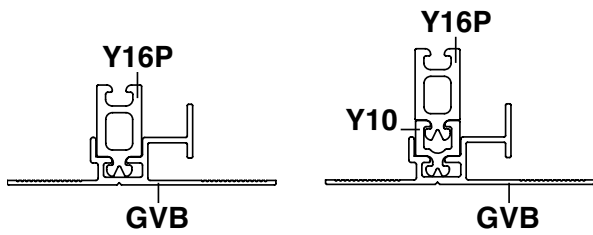


Cut profiles GVT, GVB, L632, Y16P and/or Y10 using the same width B as for the glass sheet. Ensure that surfaces to be glued are sufficiently dry and free from dust and grease.

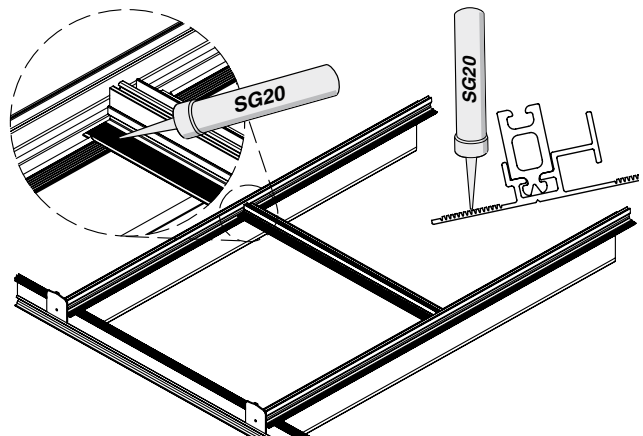
Measure the length $L_1 - 12 \text{ mm}$ from glass stopper S38.3 and draw a line on the ribbed coex layer of sheet support TPG. Draw a second line 60 mm further along. Remove only the coex layer between both drawn lines. Add SG20 adhesive to the zones without a coex layer.

Specific installation tips for glazing connections

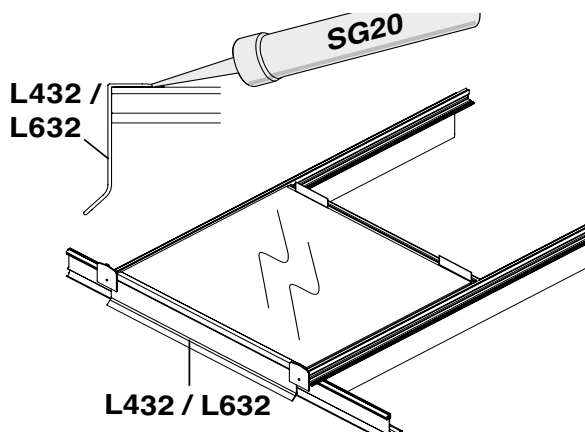
Installation:



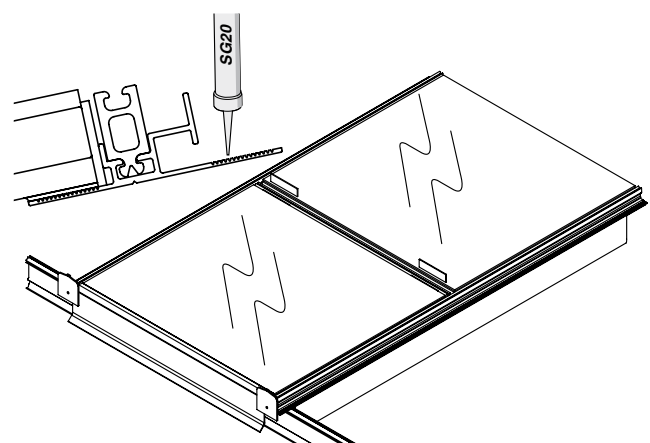
Slide profiles Y16P and Y10 in bottom profile GVB in relation to the glazing thickness according to the table on page 80. The GVT profile is also used as the bottom profile without spacers for single glazing (8, 10 and 12 mm) or glazing up to 21 mm.



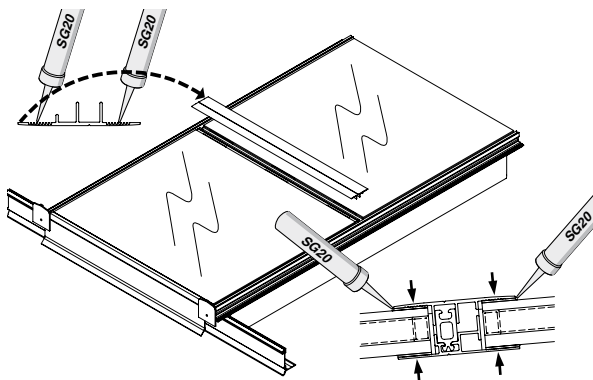
Position the complete set on sheet support TPG with the stop shoulder towards the ridge. Add adhesive to the bottom ribbed zone of bottom profile GVB (or GVT).



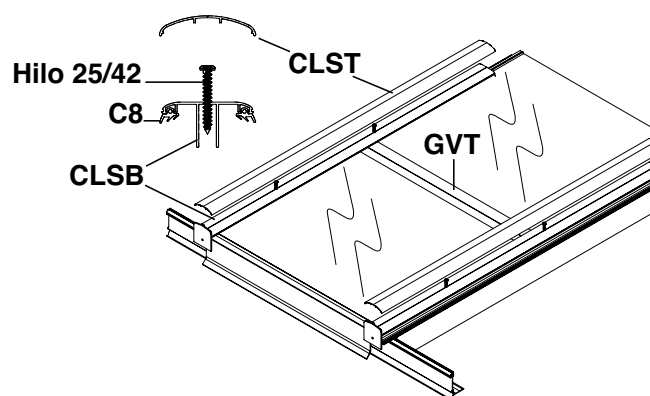
Stick end profile L432 or L632 on to the glazing. Position the bottom glass sheet on the conservatory supports. Press profile GVB against the glazing. Position 2 plastic buffer blocks in-between the glazing and bottom profile GVB. Repeat this for all supports.



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 shoulder without any clearance.



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



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

Glazing thickness table

Thickness	CLSB & CLST	CL16	CL32	C2CX	Stop profile
5 mm	++ (CY10) °HL25	+ (CY10) °			S16.3
6 mm	++ (CY10) °HL25	+ (CY10) °			S16.3
7 mm	++ (CY10) °HL25	+ (CY10) °			S16.3
8 mm	++ (CY10) °HL25	++ (CY10)			S16.3
9 mm	++ (CY10) °HL40				S16.3
10 mm	++ (CY10) °HL40	+ °			S16.3
11 mm	++ (CY10) °HL40	+ °			S16.3
12 mm	++ (CY10) °HL40	+ °			S16.3
13 mm	++ °HL25	+ °		+	S16.3
14 mm	++ °HL25	+ °		+	S16.3
15 mm	++ °HL25	+ °		+	S16.3
16 mm	++ °HL25	++		++	S16.3
17 mm	++ °HL40	+ °		+	S32.3
18 mm	++ °HL40	+ °		+	S32.3
19 mm	++ °HL40	+ °		+	S32.3
20 mm	++ °HL40			+	S32.3
21 mm	++ °HL40				S32.3
22 mm	++ °HL40				S32.3
23 mm	++ °HL40				S32.3
24 mm	++ °HL40				S32.3
25 mm	++ °HL40		++		S32.3
26 mm	++ °HL40				S32.3
27 mm	++ °HL40				S32.3
28 mm	++ °HL40				S32.3
29 mm	++ °HL40			+ (Y32)	S32.3
30 mm	++ °HL40			+ (Y32)	S32.3
31 mm	++ °HL40			+ (Y32)	S32.3
32 mm	++ °HL40		++	++ (Y32)	S32.3
33 mm	++ (Y25) * °HL40		+ (Y32) °	+ (Y32)	S32.3
34 mm	++ (Y25) * °HL40		+ (Y32) °	+ (Y32)	S32.3

Key	
++	ideal solution
+	good solution
°	screw
Y32	slide Y32 on TP
CY10	use CY10 on both sides of the CL/T16/32
*	always pre-drill holes (Ø drilled hole Y < Ø screw)
HL25	Hilo 25
HL40	Hilo 40

ONLY USE ORIGINAL PARTS DELIVERED BY SKYLUX. EVERY GUARANTEE IS CANCELLED IF NON-ORIGINAL PARTS ARE USED.

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