



SUNPAL®

Multiwall Polycarbonate Standing Seam
Architectural System



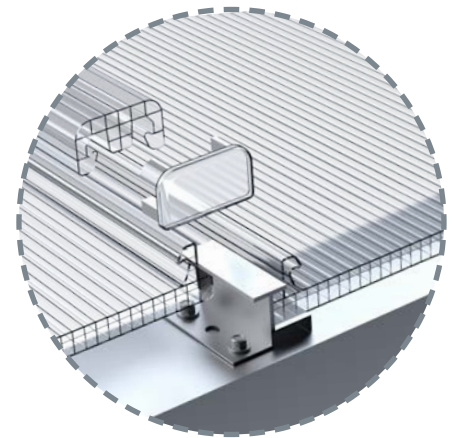
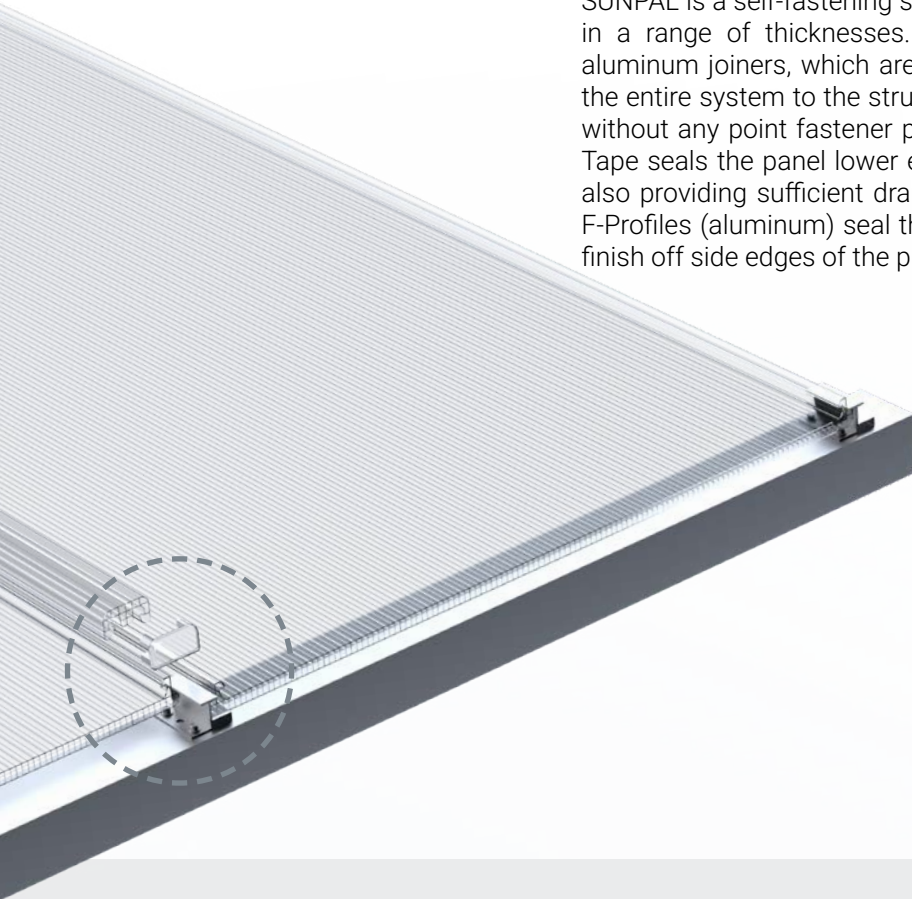
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SUNPAL is an advanced multiwall polycarbonate panel system that combines proven design, light transmission, thermal insulation and strength. It offers a lightweight, leak-proof design that withstands very high loads and accommodates expansion and contraction. The system's distinct advantages make it ideal for long-term application on many types of projects. As with any true architectural glazing system, SUNPAL is appropriate for a variety of roofing and cladding designs, flat or curved.

SUNPAL is a self-fastening system, based on multiwall panels, and is available in a range of thicknesses. The panels join together by polycarbonate or aluminum joiners, which are sealed at the ends by End-Caps. T-Fasteners fix the entire system to the structure, allowing the panels to be clamped in place, without any point fastener penetration through the panels. Ventilated Sealing Tape seals the panel lower end, to prevent dirt from entering the flutes, while also providing sufficient drainage. U-Profiles (Polycarbonate or aluminum) or F-Profiles (aluminum) seal the upper ends of the panels. Aluminum F-Profiles finish off side edges of the plane, creating a fully framed installation.



Typical Applications

- Architectural roofing & glazing
- Commercial and retail roofing
- Sport facilities - translucent roofing
- Covered walkways, awnings & entrances
- Open markets - light roofing
- Service stations - translucent roofing
- Parking structure covering
- Swimming pool covers



Easy to Install



Optimized Light & Shade Balance



Thermal Insulation



Leakproof



Superior Load Capacity



Architectonic Curves

Scan for more information

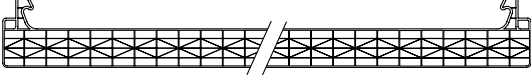
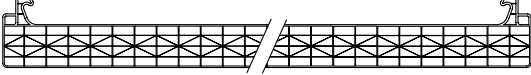




Panel Types

SUNPAL panels have a multiwall structure, and are available in thicknesses of 8mm, 10mm, 18mm and 20mm. Standard SUNPAL panels are UV protected on

both sides. One side UV protected panels are available for special orders. Maximum panel length is 11.99 (Typical stock length).

Type	Panel Data	Drawings
SUNPAL 8/600 Lite *	Width: 600mm Height: 23.5mm Height with Polycarbonate Joiner: 31mm Weight: 1.11 Kg/m, 1.83 Kg/m ² Min. cold bending radius: 2.0m	
SUNPAL 8/600 *	Width: 600mm Height: 23.5mm Height with Polycarbonate Joiner: 31mm Weight: 1.24 Kg/m, 2.00 Kg/m ² Min. cold bending radius: 2.0m	
SUNPAL 10/600 **	Width: 600mm Height: 25.5mm Height with Polycarbonate Joiner: 33mm Weight: 1.56 Kg/m, 2.60 Kg/m ² Min. cold bending radius: 2.4m	
SUNPAL 18/1000 **	Width: 1000mm Height: 33.5mm Height with Polycarbonate Joiner: 41mm Weight: 3.11 Kg/m, 3.11 Kg/m ² Min. cold bending radius: 3.0m	
SUNPAL 20/1000 *	Width: 1000mm Height: 35.5mm Height with Polycarbonate Joiner: 43mm Weight: 3.19 Kg/m, 3.19 Kg/m ² Min. cold bending radius: 3.0m	

* Available to order subject to MOQ ** Stocked in Australia



Colours

Colour		SUNPAL 8/600* & 10/600			SUNPAL 18/1000* & 20/1000		
		%LT	SHGC	SC	%LT	SHGC	SC
	Clear	65 *	0.63	0.72	50 *	0.54	0.62
	Bronze	25 *	0.40	0.46	20	0.35	0.39
	Grey	30 *	0.45	0.52	24 *	0.44	0.51
	White Opal	25 *	0.37	0.43	20	0.30	0.34
	White Ice	50	0.56	0.64	40	0.48	0.55
	Green	50 *	0.56	0.64	38	0.46	0.53
	Blue	50 *	0.60	0.69	36	0.50	0.57
	Red	20 *	0.52	0.60	20	0.44	0.50
	Purple	40 *	0.55	0.63	40	0.50	0.58
	Magenta	20 *	0.55	0.63	20	0.52	0.60
	Orange	35 *	0.51	0.59	35	0.46	0.53
	Yellow	55 *	0.57	0.65	55	0.51	0.59
	Aqua Green	14	0.30	0.35	14	0.27	0.31
	Navy Blue	20	0.45	0.52	22	0.41	0.47
MultiLayer							
	White / Bronze	10	0.29	0.34	10	0.29	0.34
	White / Grey	10	0.29	0.34	10	0.29	0.34
	White / Blue	10	0.37	0.43	10	0.37	0.43
	White / Red	4	0.28	0.32	4	0.28	0.32
SolarSmart™ Selective Solar Control Technology							
	Solar Ice	20 *	0.28	0.32	15	0.23	0.26
	Solar Control	20 *	0.30	0.34	15 *	0.25	0.29
	Bluish Breeze	34	0.32	0.38	34	0.33	0.38
DiffuserPlus							
	Clear	50	0.49	0.56	33 *	0.40	0.46
	Bronze	20	0.42	0.44	20	0.37	0.43
	White Opal	26	0.40	0.45	20 *	0.33	0.38
	Green	40	0.48	0.54	25	0.38	0.44
	Blue	40	0.51	0.59	25	0.41	0.48
	Red	20	0.47	0.55	15	0.39	0.45
	Solar Ice	20	0.35	0.41	15 *	0.30	0.35
	Grey	30	0.42	0.49	30	0.41	0.48

Note: *stocked colour in Australia. Other colours available subject to MOQ please contact your local Palram distributor.

LT (Light Transmission)

The percentage of incident visible light that passes through an object.

SHGC (Solar Heat Gain Coefficient)

The percentage of incident solar radiation transmitted by an object, which includes the direct solar transmission and the part of the solar absorption radiated inward.

SC (Shading Coefficient)

The amount of the sun's heat transmitted through a given window compared with that of a standard 3mm thick single pane of glass under the same conditions.

Efficient Daylighting



Solarsmart™ is a multi benefit technology that combines high light transmission with low heat buildup. By blocking Infrared energy that causes heat buildup, they transmit "cool light" and reduce air-conditioning and lighting costs.



Double Diffusion



DiffuserPlus™ offers double diffusion which prevents both transmitted and reflected light from excessive glare.



Project Gallery



Hangzhou Sports Park, China

Architect: NBBJ in partnership with CCDI

Application: Skylight - 15,000 sqm

SUNPAL Type: Clear 20 mm



Beijing Urban Rural Century Plaza, China

Architect: Beijing Design Institute

Application: Skylight - 10,000 sqm

SUNPAL Type: 18 mm

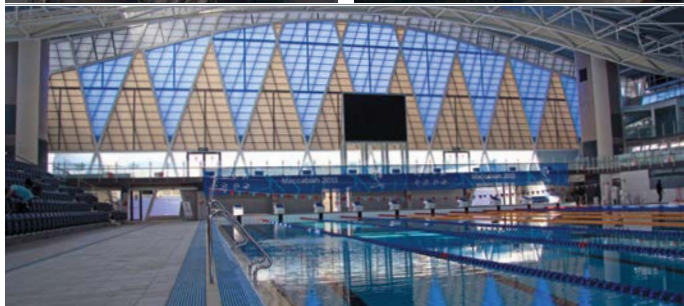


Williamstown Library, Victoria, Australia

Architect: Sally Draper Arch

Application: Sidelight - 330 sqm

SUNPAL Type: Solar Ice 18mm



Wingate Sports Center, Israel

Architect: Atsmon Architects

Application: Sidelight - 2,600 sqm

SUNPAL Type: 18mm Grey/Blue/Bronze



Melbourne Park Eastern Plaza, Australia

Application: Sidelight - 780 sqm

SUNPAL Type: 10mm Blue



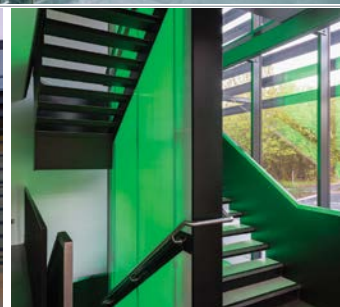
Sports Complex at the Technion Institute of Technology, Israel

Application: Roof - 3,200 sqm

SUNPAL® Type: 18mm Diffuser Plus Bronze



Fun Republic Mall, Coimbatore, India
Architect: Arris Architects
Application: Skylight - 3,700sqm
SUNPAL - Solar Control 10mm



Business Park, UK
Architect: Aros Architects UK
Application: Staircase Cladding - 146 sqm
SUNPAL® Type: 18 mm



Private Residence, New Zealand
Application: Curtain Wall
SUNPAL Type: Solar Ice 18mm



Private Residence, Brisbane, Australia
Application: Pergola
SUNPAL Type: Solar Control 10mm



Whitten Oval Community Sports Hall, Australia
Architect: Peddle Thorp
Application: Curtain Wall - 370 sqm
SUNPAL Type: Solar Ice 18 mm



Griffith University at Gold Coast, Australia
Application: Study Pod Partitions
SUNPAL Type: Clear 8 mm



Typical Physical Properties

Property	Method*	Conditions	Units	Value
Density	D-792		g/cm ³	1.2
Heat deflection temperature (HDT)	D-648	Load: 1.82 MP	°C	130
Service Temperature - Short term			°C	-50 to +120
Service Temperature - Long term			°C	-50 to +100
Coefficient of linear thermal expansion	D-696		cm/cm °C	6.5 x 10 ⁻⁵
Tensile strength at yield	D-638	10 mm/min	MPa	62
Elongation at break	D-638	10 mm/min	%	>80
Impact falling dart	ISO 6603/1		J	40-400
Practical Thermal expansion/contraction rate			mm/m	3

* ASTM method except where noted otherwise

Thermal Insulation

Type	U-Value [Watts / m ² · K]	R-Value [m ² · K / Watt]
SUNPAL Lite 8 mm	2.45	0.41
SUNPAL 8 mm	2.45	0.41
SUNPAL 10 mm	2.10	0.47
SUNPAL 18/20 mm	1.50	0.67

Flammability

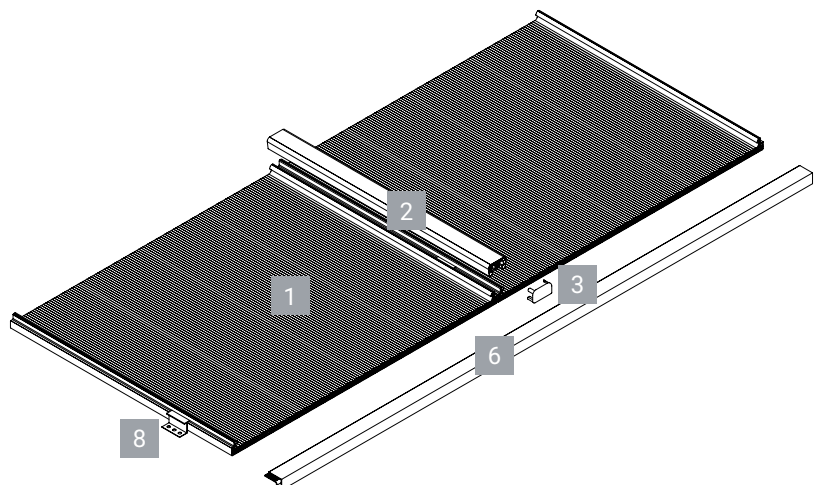
SUNPAL complies with the most demanding international fire resistance standards in the field of plastics, as indicated in the detailed table herein. The classification is subject to product type, thickness and color.

Method	Classification*
EN 13501	B, s1, d0
ASTM E 84	Class A

*Depends on panel thickness.

Assembly Details

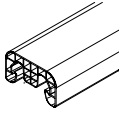
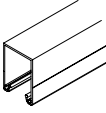
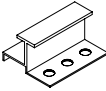
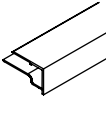
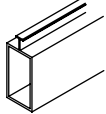
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1	Panel									
2	Polycarbonate Joiner									
3	End-Cap for Polycarbonate Joiner									
4	Aluminum Joiner 'C'									
5	End-Cap for Aluminum Joiner 'C'									
6	Aluminum Sealing Strip									
7	Polycarbonate U-Profile									
8	T-Fastener									
9	T-Stopper									
10	Aluminum Span-Bar									
11	Aluminum F-Profile									
12	Metal Screw									
13	Wood Screw									
14	Aluminum U-Profile									





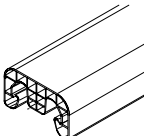
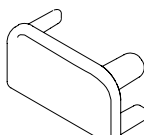
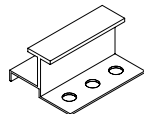
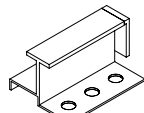
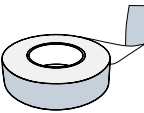
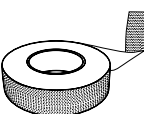
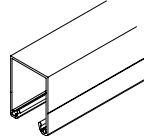
System Principles

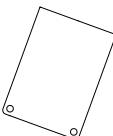
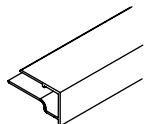
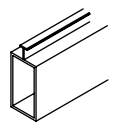
A SUNPAL system is primarily defined by the panel thickness. All other components are selected to match this panel.

Component	
Joiners	Polycarbonate Joiner  The joiners are made of polycarbonate or aluminum and fit all panel types. The choice between them is usually made according to the type of application - Polycarbonate Joiner for roofing (or any case where the seam is external); Aluminum Joiner 'C' for cladding (hidden seam). Polycarbonate Joiner (Part 0200) is 22mm high and 39mm wide, made of extruded polycarbonate in a color matching to that of the panels. Its maximum length is 11,990mm and it weighs 160 gr/m. The Polycarbonate Joiner should overhang about 100mm beyond the last fastener. End Cap for the Polycarbonate Joiner (Part 0300) is a clear acrylic cap designed to be plugged at the joiner edge. It prevents water and dirt penetration, helps to reinforce the joiner ends and provides styled appearance to the system edge.
	Aluminum Joiner  Aluminum Joiner 'C' (Part 0400) is 39mm wide and 54mm high, anodized extruded aluminum. Maximum length is 6,000mm. The Aluminum Joiner should overhang about 250mm beyond the last fastener. End Cap for Aluminum Joiner 'C' (Part 0500) is a mill-finish aluminum plate designed to close the Aluminum Joiner edge. This End Cap is fixed by inserting four screws into the joiner end face. Note: for curved applications, polycarbonate joiners can be cold-curved. Aluminum joiners have to be pre-curved.
Fasteners	T-Fastener  T-Fastener (08 series parts) - SUNPAL roofing system is attached to the supporting structure by the T-Fasteners. These are stainless steel concealed clips that are fixed onto the structure with screws. The fasteners have four different sizes to match each panel type. For installing SUNPAL system onto wooden structure, the T-Fasteners are fixed with Wood Screws. For metal structure, Metal Screws are used. As standard, each fastener is fixed with two screws. For high wind areas, using three screws per fastener is recommended. T-Stopper (09 series parts) - To prevent "travelling" of the panels, it is recommended to fix one T-Stopper at a certain fixing point along each Joiner. This will be the only longitudinal fixed point, while all other fixings of this panel are floating, by regular T-Fasteners. It is a special T-Fastener with added stopper plate, which fits into a slit cut in the attached panels (prepared on spot).
Sealing & end cap Strips	Aluminum Sealing Strip  The Aluminum Sealing Strips are anodized aluminum profiles with four sizes that match each type of SUNPAL panel. Maximum length is 6000mm (Stock length). These are used as a closure for the panels end (usually the lower) to prevent penetration of dirt and moisture and provide efficient drainage. U-Profile is used for sealing the panel's upper end, preventing penetration of moisture and dirt. Polycarbonate U-Profiles (07 series parts) are made of polycarbonate and have two types to suit 8mm and 10mm panels. Their maximum length is 6m (Stock length). Aluminum U-Profile (16 series parts) is an anodized aluminum profile, with two types of sizes to suit 18mm and 20mm panels. Their maximum length is 6000mm (Stock length). Aluminum F-Profiles (11 series parts) are available in four sizes to match each panel type. These aluminum profiles are anodized and their maximum length is 6000mm (Stock length). The F-Profiles are generally used as side fixing detail, also applicable for an upper-end closure.
Aluminum Span-Bar (On Special Order)	Aluminum Span-Bar  The Aluminum Span (10 series parts) Bar is a hollow aluminum bar that can be used as a rafter on a structure frame. It can be straight or curved (by pre-rolling), and designed to perform both as a rafter and a fastener (no T – Bar Fasteners required in Span-Bar applications). Span Bars are available in four sizes to match each panel type, and their maximum length is 7000mm.



System Components

Component	Suppliance Data
 Polycarbonate Joiner	Length: 12m Colors: panel matched
 End-cap for Polycarbonate Joiner	Colours: Clear
 T-Fastener	Sizes: 8mm, 10mm*, 18mm*, 20mm Finish: Stainless steel
 T-Stopper	Sizes: 8mm, 10mm*, 18mm*, 20mm Finish: Stainless steel
 Wood Screw Galvanized Hex-head tapping screw 5x25mm (1")	
 Metal Screw Galvanized Hex-head self-drilling screw 4.8x19mm (3/4")	
 Aluminum (Solid) Tape	
 Breather (Ventilated) Tape	
 Aluminum Joiner - C	Length: 6m Finish: Anodized

Component	Suppliance Data
 End-Cap for Aluminum Joiner - C	Finish: Mill Finish (Natural)
 Sheet End Cap	Length: 6m Finish: Anodized
 Aluminum F-Profile	Length: 6m Finish: Anodized
 Aluminum Span-Bar	Length: 7m Finish: Anodized
 Stainless Steel M6 Bolt	
 Stainless Steel M6 Nut	
 Stainless Steel M6 Washer	
 Screw for Alu Joiner C End Cap	

*stocked in Australia



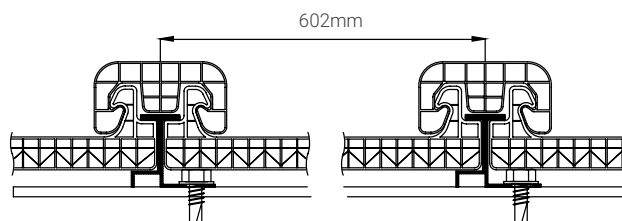
Installation Data

Roof structure

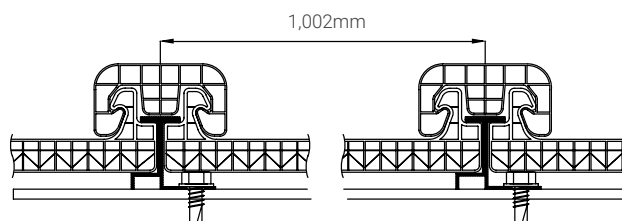
SUNPAL system fits for both rafter and purlin construction. The recommended minimum roof slope for SUNPAL applications is 5 degrees. For lower slopes rafter design is recommended.

Assembled System Width

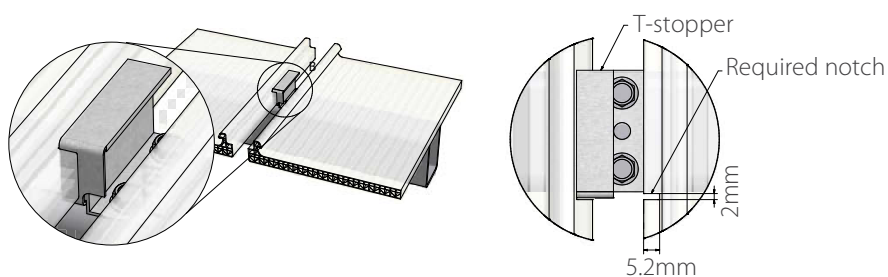
SUNPAL 8/600 and 10/600



SUNPAL 18/1000 and 20/1000



T-Stopper Installation





Purlin Design - Recommended spans (For wind load of 1kPa)

Type (mm)	Panel Width (mm)	Polycarbonate Joiner		Aluminum Joiner - C	
		Mid-Span (mm)	End-Span (mm)	Mid-Span (mm)	End-Span (mm)
SUNPAL Lite 8 mm	600	900	700	1,500	1,100
SUNPAL 8 mm	600	1050	825	1,600	1,200
SUNPAL 10 mm	600	1,250	950	1,800	1,400
SUNPAL 18/20 mm	1,000	1,400	1,090	1,800	1,400

Rafter Design - Recommended Spans (With maximum intervals of T-Fasteners along rafters for wind load of 1kPa)

Type (mm)	Rafter Centers (mm)	Polycarbonate Joiner		Aluminum Joiner - C	
		Internal Fasteners (mm)	Fasteners at Rafter Ends (mm)	Internal Fasteners (mm)	Fasteners at Rafter Ends (mm)
SUNPAL Lite 8 mm	602	900	700	1,500	1,100
SUNPAL 8 mm	602	1050	825	1,600	1,200
SUNPAL 10 mm	602	1,250	950	1,800	1,400
SUNPAL 18/20 mm	1,002	1,400	1,090	1,800	1,400

* The above spans are specified for wind loads of 1000 Pa (21 psf) in roofing applications. For vertical or internal applications, contact your local SUNPAL distributor.

** In curved applications, Aluminum Joiners will have to be pre-rolled, while Polycarbonate Joiners can be cold curved to the roofing radius.

Maximum Spans Between Purlins

Panel Type (mm)	Single Span (mm)						Multi-Span											
							Mid-Span (mm)						End-Span (mm)					
	75	100	125	150	175	200	75	100	125	150	175	200	75	100	125	150	175	200
	kg/m²						kg/m²						kg/m²					
8	850	750	700	650	600	550	1150	1050	900	850	800	750	900	825	700	665	625	585
10	950	850	800	750	700	650	1350	1250	1100	1050	1000	950	1050	975	860	820	780	740
18	1100	1000	950	900	850	800	1500	1400	1300	1200	1150	1100	1170	1090	1015	930	900	860
20	1200	1100	1000	950	900	850	1600	1500	1400	1300	1250	1200	1250	1170	1090	1015	975	935

* When using an Aluminum Joiner rather than a Polycarbonate Joiner, span data in the above table can be increased by 5%.

* For specific data or any other planning consultation, please contact Palram's Marketing Support department.

* The values are based on deflection criterion of L/20 of the Polycarbonate panels.

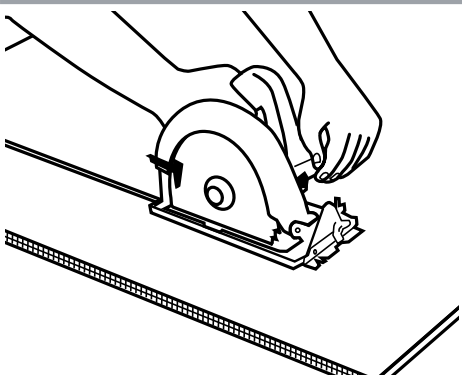
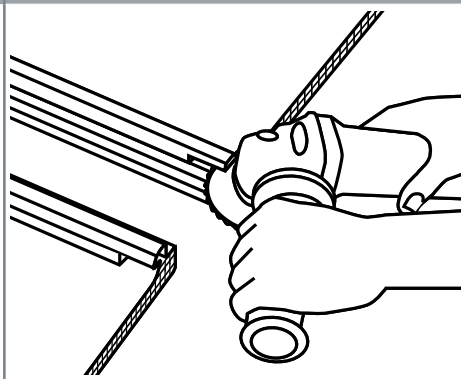
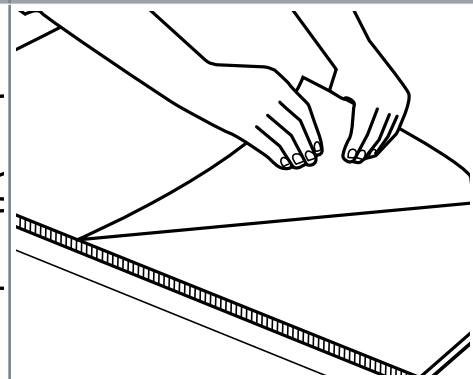
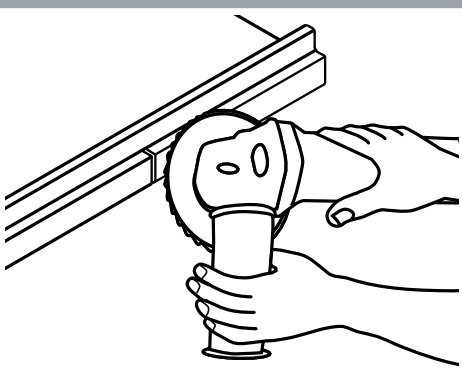
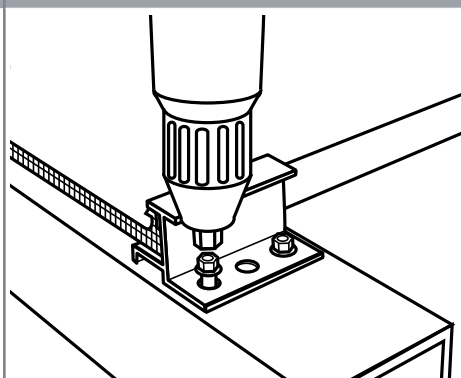
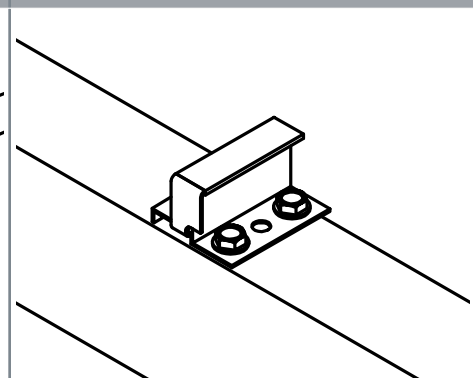
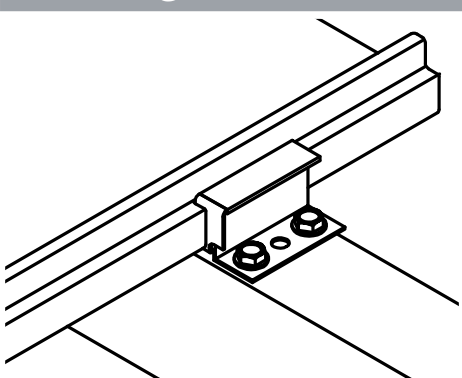
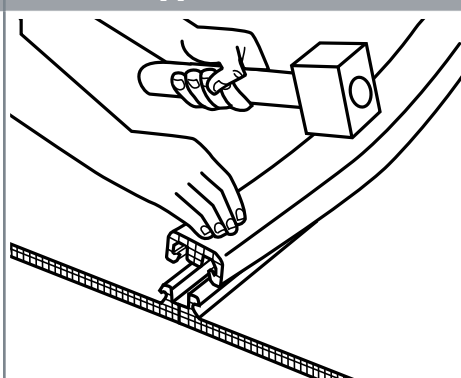
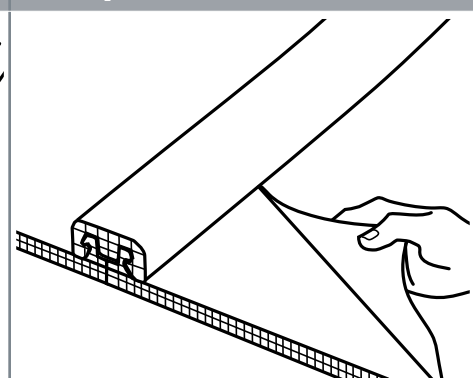
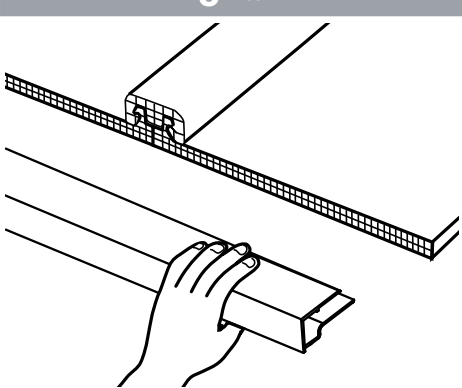
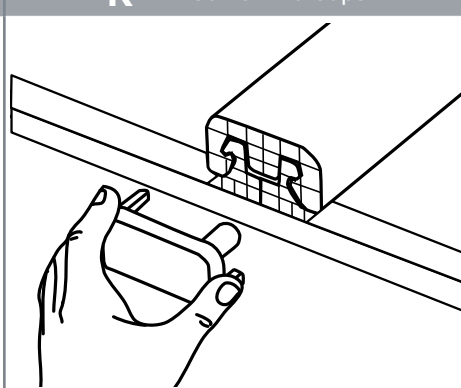
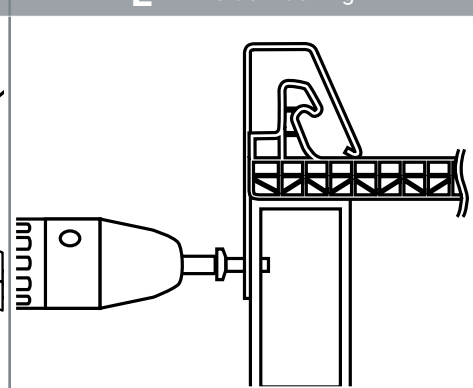
* The table is valid for purlin installation only.

* The dimensions depicted do not supersede the requirements of local construction codes.

Cyclonic installation available please contact a Palram representative.



Installation Guidelines

A • Cut to Size	B • Slit for AL Sealing Stripo	C • Remove Inner Masking
		
D • Slit for T-Stoper	E • T-Fastener	F • Fixing T-Stopper
		
G • Assemble	H • Assemble	I • Remove Outer Masking
		
J • to	K • Fix Joiner End-Caps	L • Fix Side Flashing
		

*Reference to the illustrations above appear in brackets in the text below.

**A ▪ Cut to Size**

Cut panels to length allowing for an overhang of no more than 100mm at each end. A penetration of minimum 50mm into the gutter is recommended. Use a circular or hand saw with fine tooth blades for easier and more precise cutting.

B ▪ Slit for AL Sealing Strip

- Using a small cutting disc (2mm thick), prepare 18mm deep horizontal cuts at each end of the panel teeth. This cut should be in parallel to the panel top face, but without damaging the panel surface.
- Since this step needs precision, it is highly recommended to perform this action at ground floor level.
- Remove cutting chips: Use a vacuum cleaner or an air compressor with blow gun to blow out any "swarf" or loose particles from inside the panel. Make sure that both ends of panel are not covered with the protective film.
- Position first panel: To achieve a symmetric installation, determine the layout of the first panel, starting at the center of the structure. Measure the structure's width, to determine using odd or even number of the prepared panels. Accordingly, mark on the support purlins the location of the middle panel or middle pair of panels. For "side to side" installation, set up the first panel, fitted to the side flashing at the preferred starting side.

C ▪ Remove Inner Masking

Remove the protective film from the internal face only. Keep this side away from the roof purlins until final positioning of the panel, to avoid scratching.

D, F & G ▪ Fixing T-Stopper

The T-stopper's main function is to create a fix point (zero movement) for each panel. This will allow to control the direction of thermal expansion and contraction, and prevent the panels from shifting due of gravity. Fix the T-Stopper using hex head fixings provided while considering the following recommendations:

- Curved application:** The T-stopper will be normally fixed at the peak.
- Roof end with no gutter:** The T-stopper shall be fixed at the last purlin in order to eliminate differential movements (esthetics).
- Roof end with gutter:** The T-stopper shall be fixed the opposite of the expansion allowance.
- Wall Application:** The T-Stopper should be fastened at the end of the panel where thermal expansion cannot be accommodated. In this method all thermal expansion is directed to the opposite end of the panel. Proper spacing must be calculated.

E ▪ T-Fastener

- Along panel on remaining purlins (see span table for rafter design), place T-fasteners against panel and fix into place using hex head fixings provided (2 fixings for standard, 3 fixings for high wind areas and hurricane regions).
- Position next panel:** Remove protective film from underside of second panel and place against T fasteners.

H ▪ Locking the two panels together

Using a rubber mallet, start to fix the Joiner, locking the 2 panels together by striking with short intervals (5-10cm) along the joiner. Start at the bottom end, and work your way up the roof (ensure that the joiner overhangs the panel ends by 13mm, where the aluminum sealing strip will be installed later).

I ▪ Remove Outer Masking

Shortly after installation, peel off the protective film from the panel's external face. Delaying removal of the protective film can make it very difficult or impossible to peel off later on. On exceptionally hot days, remove top protective film immediately to prevent it from bonding with the panel.

Repeat steps 5 to 9 (or 11)

until all panels are in place except for the external panels.

Determine width of end panels required.

Using a circular saw (fitted with fine tooth blade) or jigsaw cut the external side panels to width.

Along the cut edge of the SUNPAL panel, push on the aluminum F section (cut to size) so that it is firmly secured. Lift the end panel into place and repeat step 9 (or 9-11).

The aluminum F section should be firmly affixed against last rafter or end of purlins (note: if fixing to metal purlins, make sure the ends of the purlins are closed off).

Fix the F-Section

to the rafter or end of purlin using Tek screws.

Start installing the U-Profile

at the panel top end by pushing on. It is designed to be a tight fit, so start by pushing one end on and slowly tap it until it is firmly inserted. Polycarbonate U-Profile (for SUNPAL 8mm and 10mm) is to tap by hand, for Al U-Profile (SUNPAL 18mm) and 20mm) use a rubber mallet.

J ▪ Start installing the Aluminum Sealing Strip

at the panel bottom end by pushing it on. It is designed to be a tight fit, so start by pushing one end on and using a mallet slowly tap it until it is firmly inserted. These sealing strips are necessary to prevent penetration of dirt and moisture.

K ▪ Joiner End-cap fixing

Insert Joiner End-cap in both Joiner ends. The End-cap for Polycarbonate Joiner is pushed into place. The End-cap for Aluminum Joiner is fit with screws. There is no need to use silicone sealants or adhesives of any kind.

L ▪ Side flashings

These are used on both sides of the structure as fasteners as well as flashings. They are fit either for full width or cut-to-size panels. Application-specific flashings are required in some situations. End-caps should fit to these flashings on both ends.

Notes:

- SUNPAL system does not require using silicones or adhesives for parts interface. For sealing of flashing assemblies use only PALRAM approved accessories, silicones, sealing tape, closure fixtures etc.
- For cleaning SUNPAL multi panels use a pressure cleaner and allow natural drying. Do not use cloth/ sponge/ chamois or similar, doing this can scratch the panels and harm their performance.



Typical Installation Details

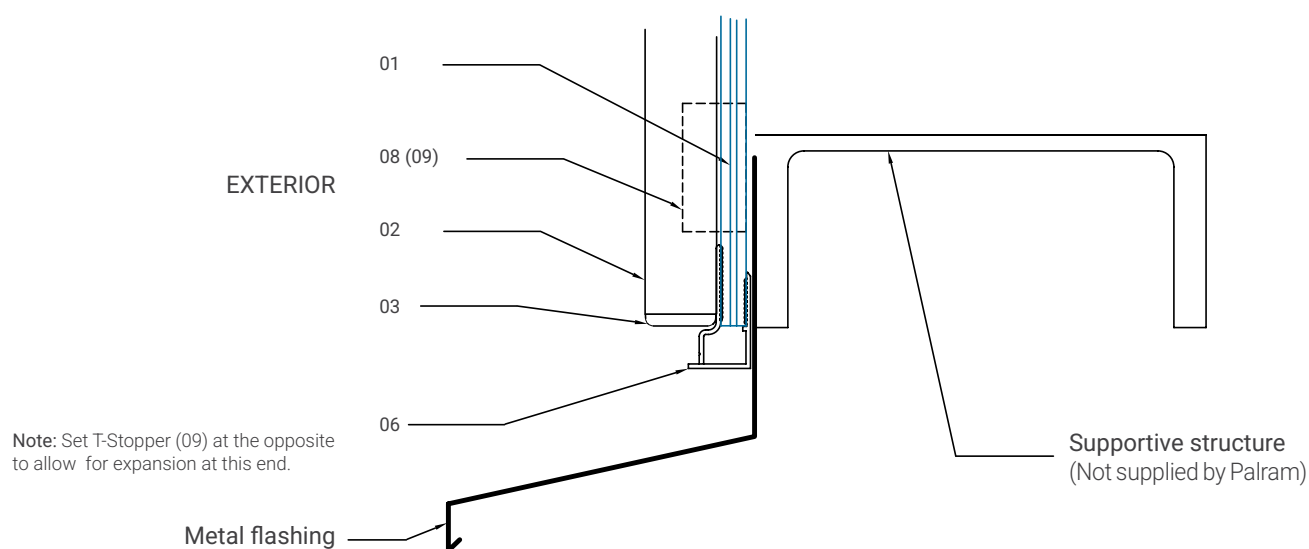
Please note: All drawings are available as CAD files from www.palram.com.

01	Panel	06	Aluminum Sealing Strip	11	Aluminum F-Profile
02	Polycarbonate Joiner	07	Polycarbonate U-Profile	12	Metal Screw
03	End-Cap for Polycarbonate Joiner	08	T-Fastener	13	Wood Screw
04	Aluminum Joiner 'C'	09	T-Stopper	14	Aluminum U-Profile
05	End-Cap for Aluminum Joiner 'C'	10	Aluminum Span-Bar		

Cladding Details

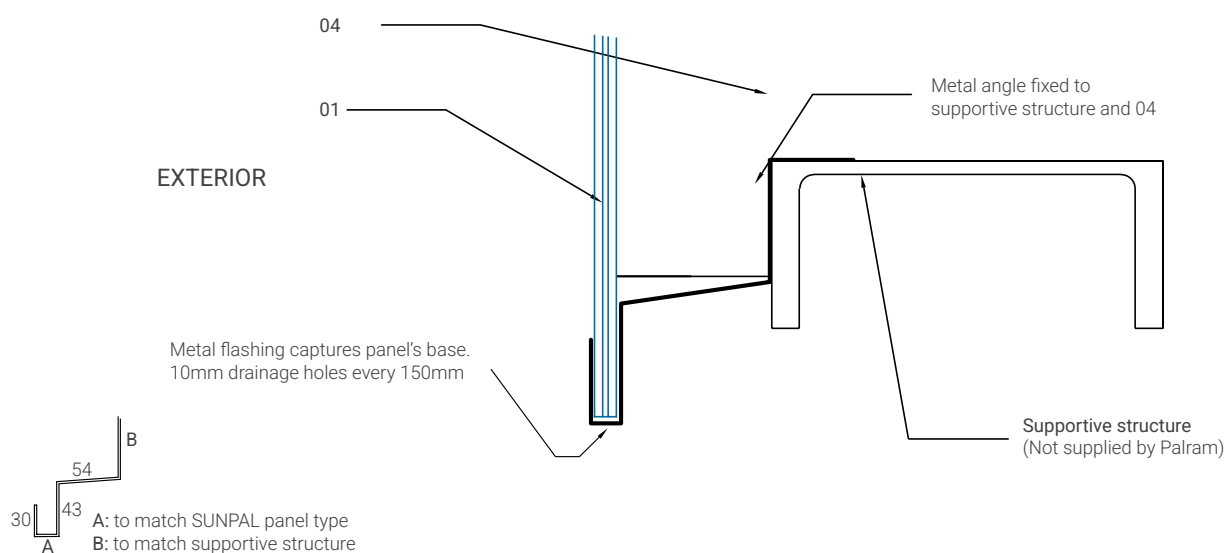
Cladding Detail 1

Cladding Base



Cladding Detail 2

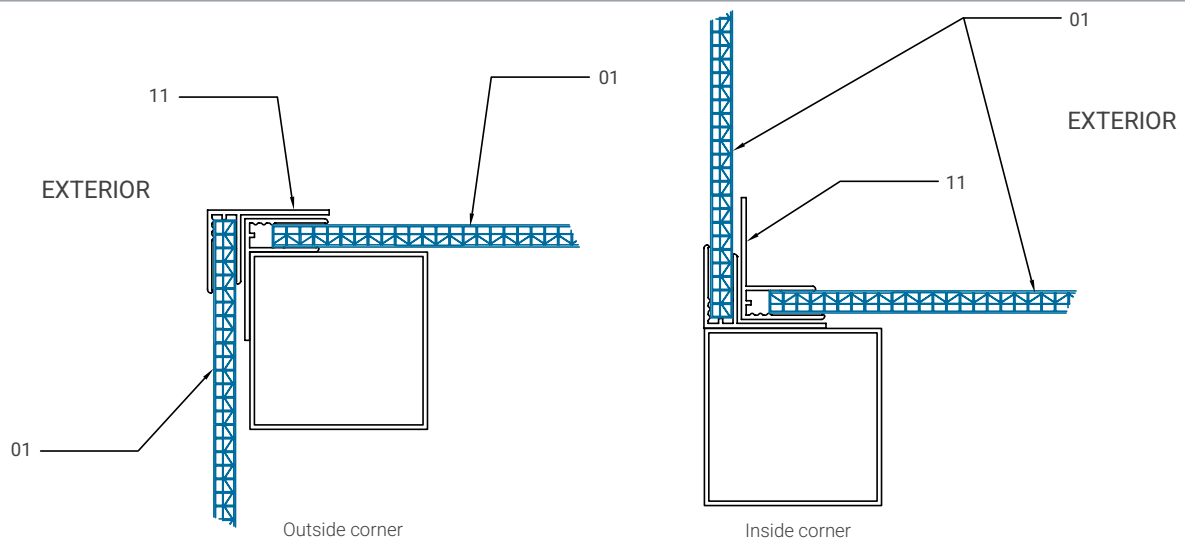
Cladding Base - Hidden Seams





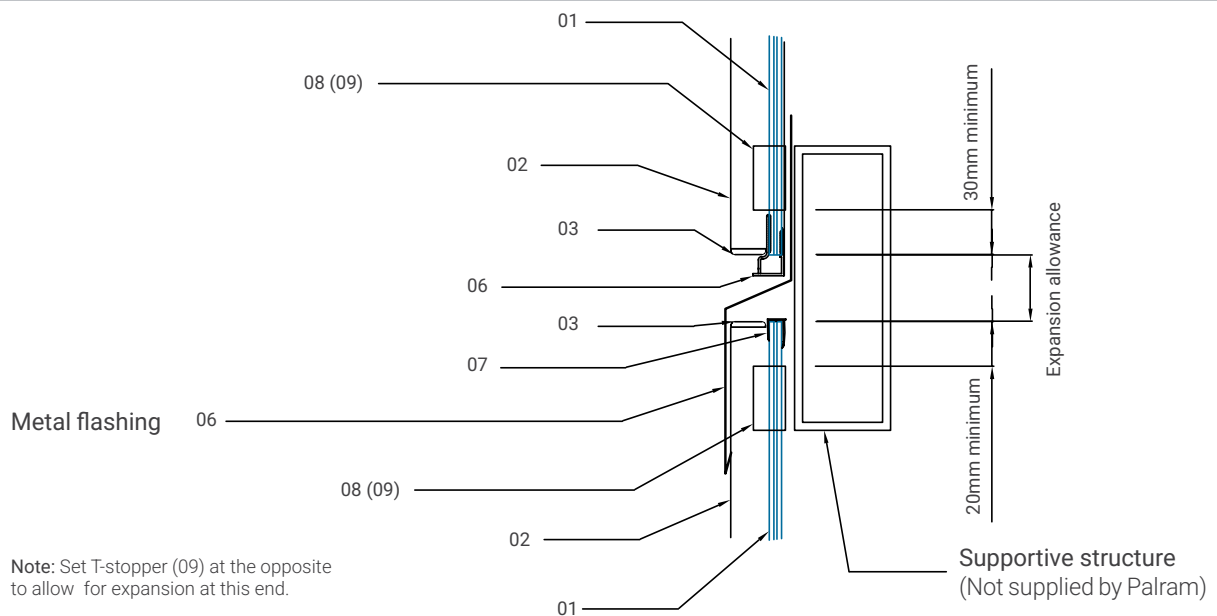
Cladding Detail 3

Corner Details



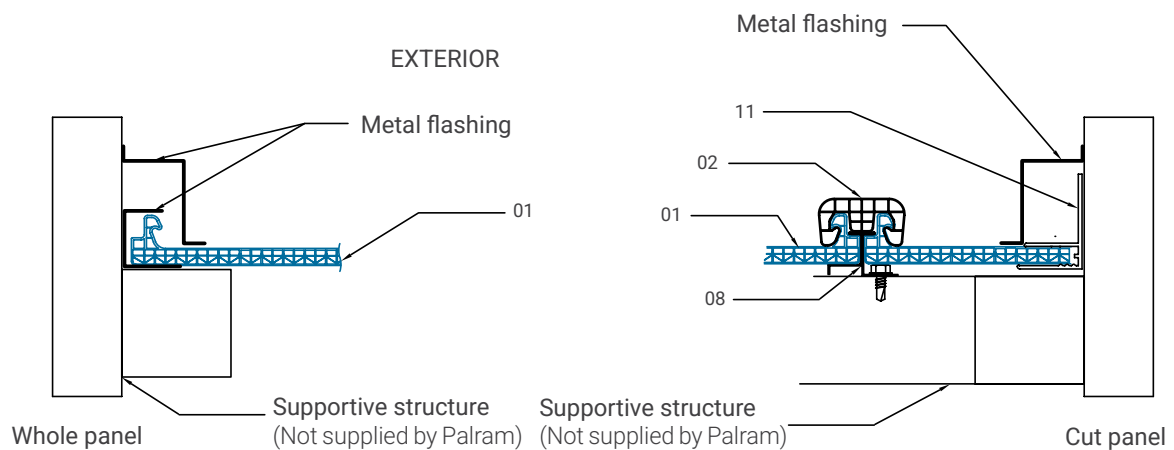
Cladding Detail 4

Panels Cladding Joint



Cladding Detail 1

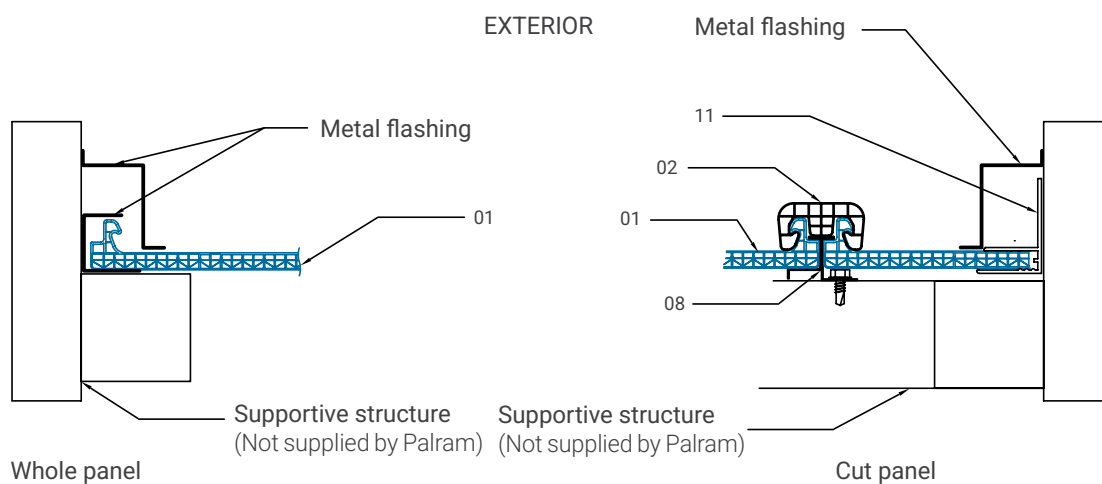
Parallel Apron Flashings





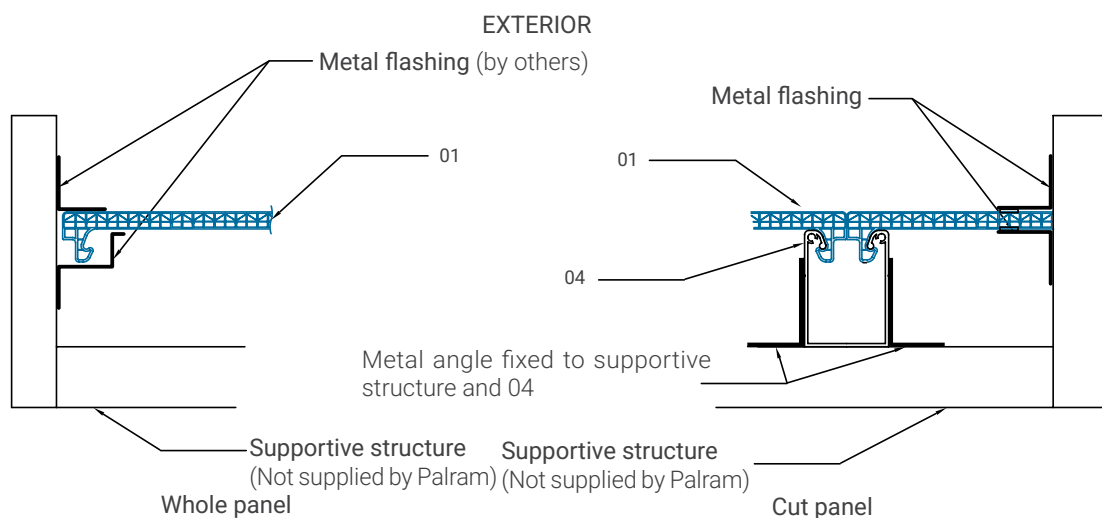
Cladding Detail 5

Parallel Apron Flashings



Cladding Detail 6

Parallel Apron Flashings - Hidden Seams

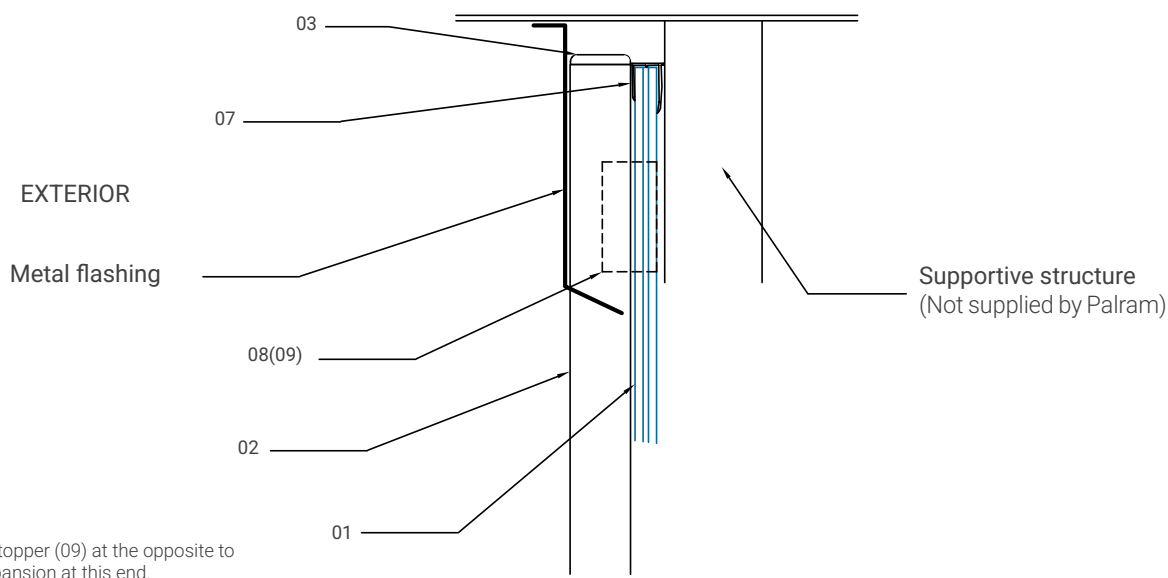


01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip
07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile



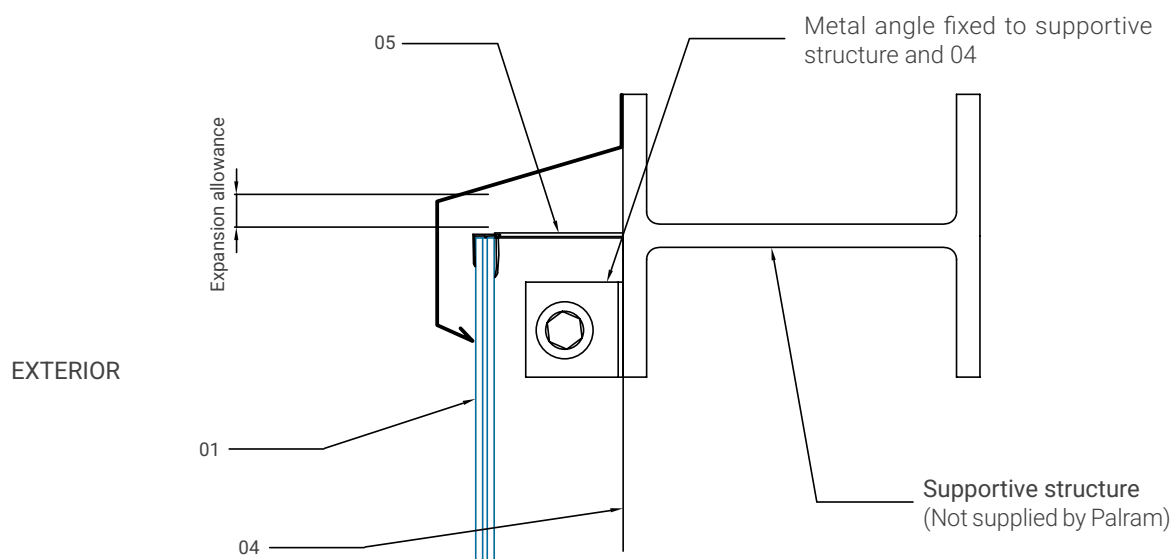
Cladding Detail 7

Cladding Top Flashings



Cladding Detail 8

Cladding Top Flashing - Hidden Seams



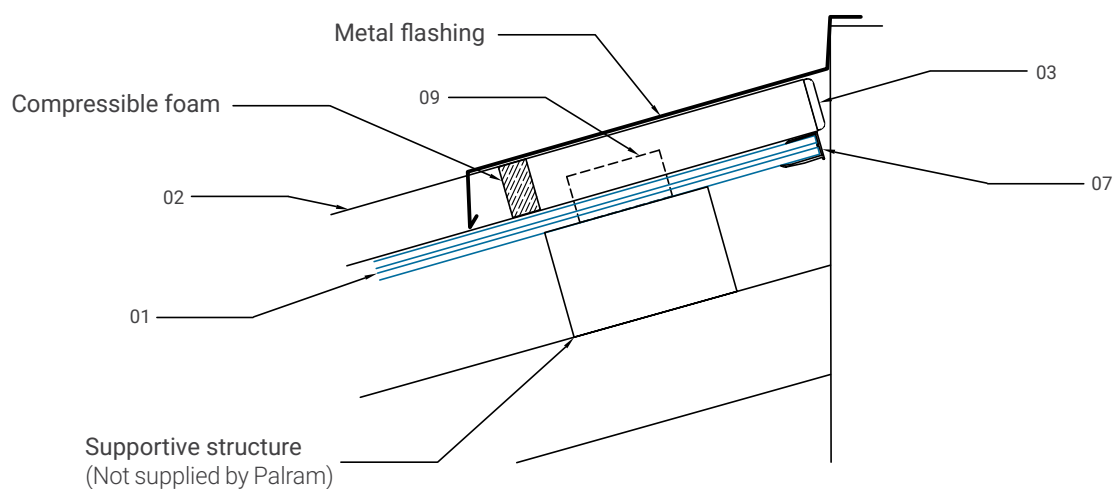
01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip | 07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile



Roofing Details

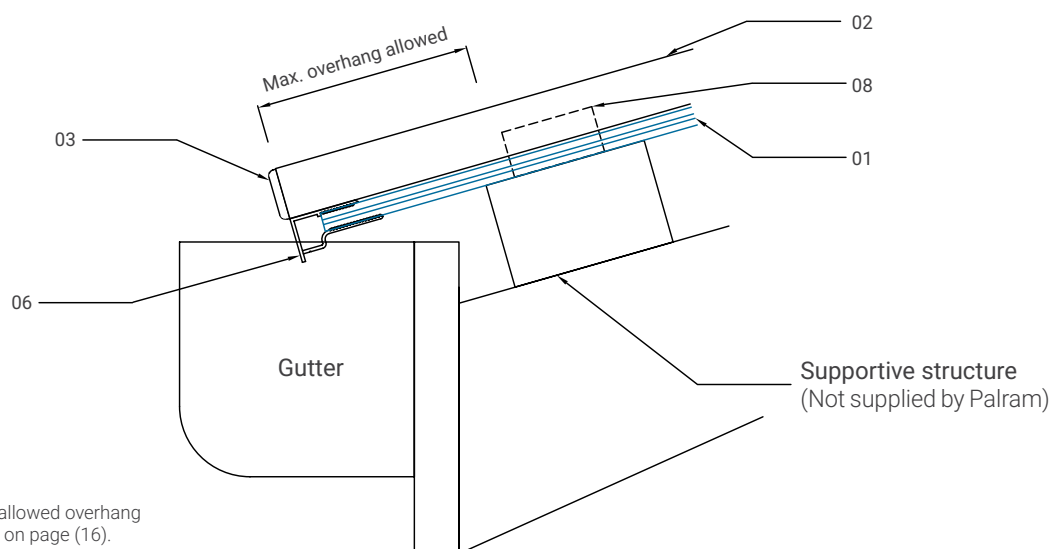
Roofing Detail 1

Apron Flashing



Roofing Detail 2

Eave



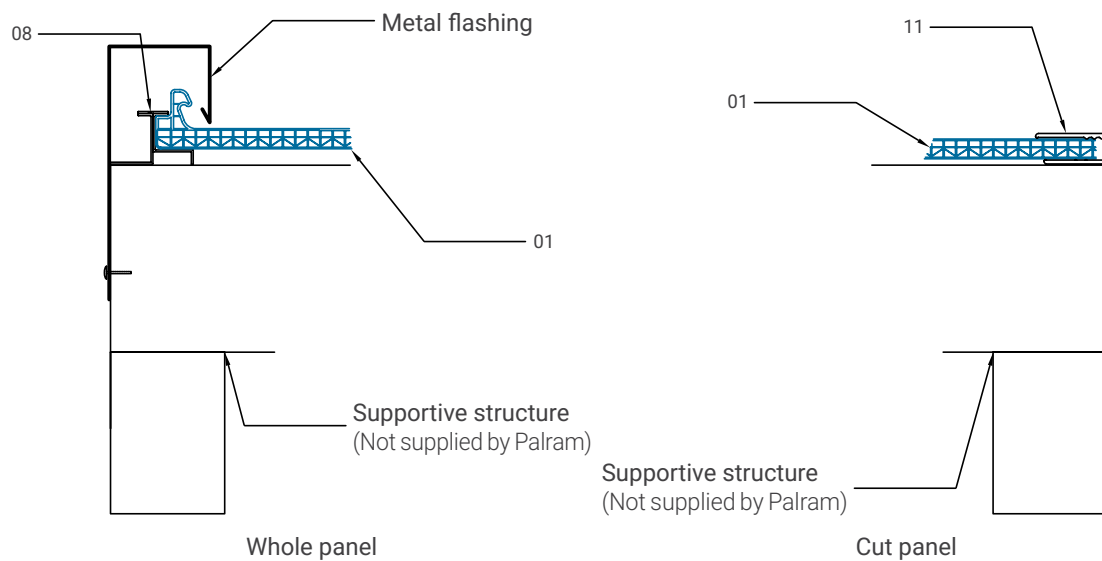
Note: For information on allowed overhang please refer to section (1) on page (16).

01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip | 07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile



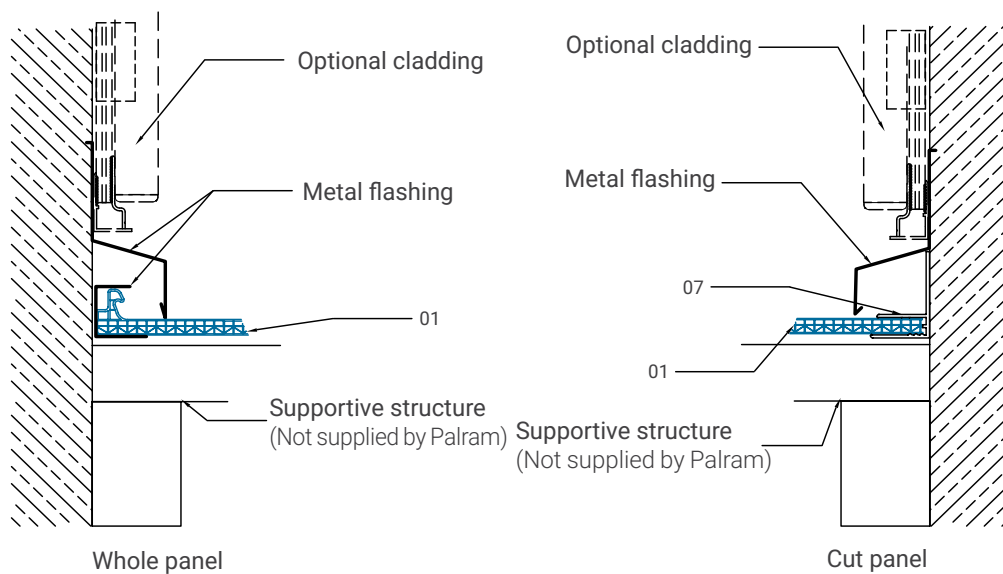
Roofing Detail 3

Barge Details



Roofing Detail 4

Parallel Apron Flashing

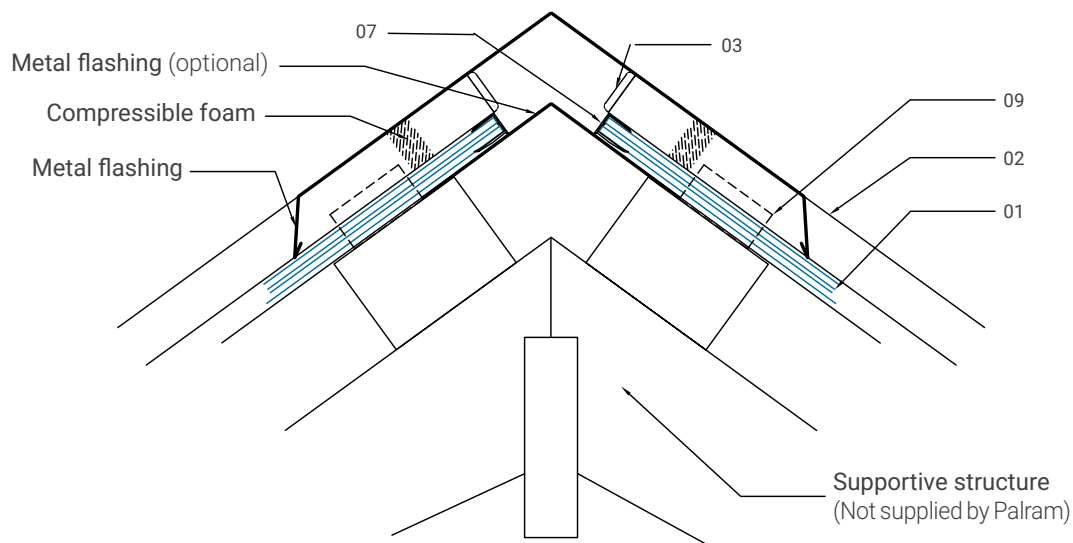


01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip | 07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile



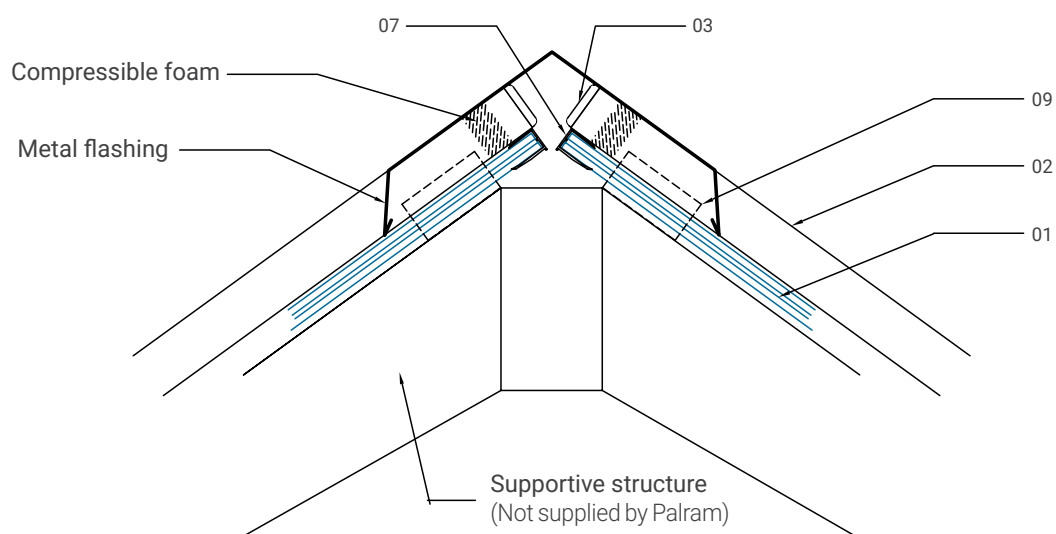
Roofing Detail 5

Ridge Flashing



Roofing Detail 6

Hip Flashing

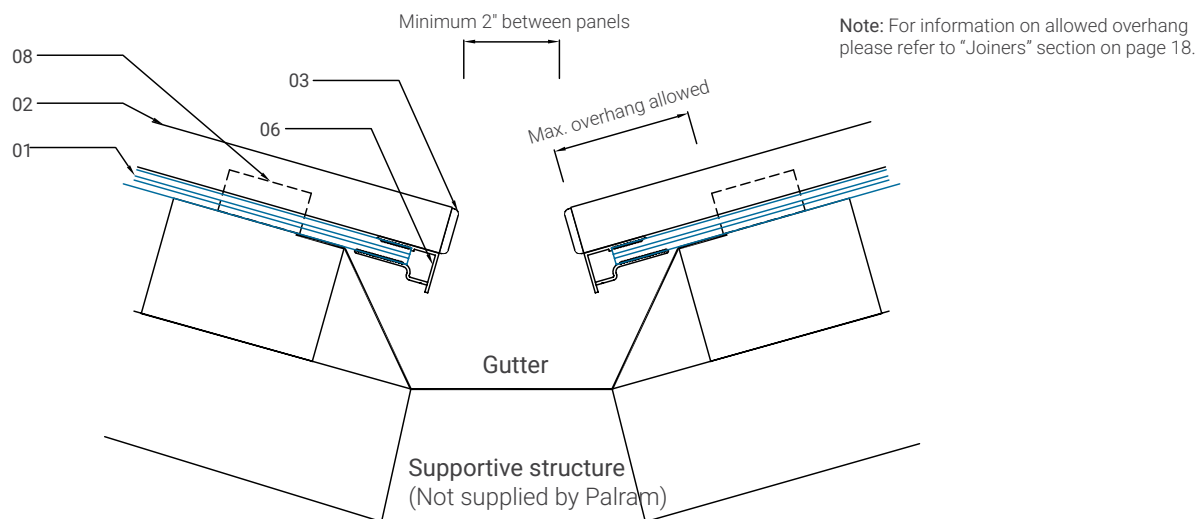


01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip
07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile



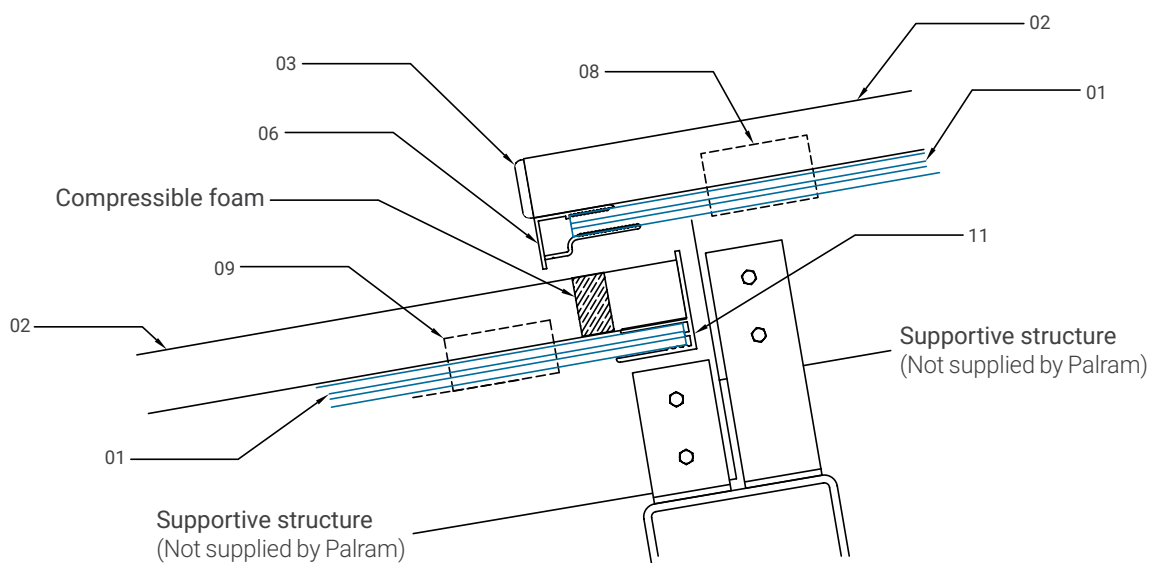
Roofing Detail 7

Valley Gutter



Roofing Detail 8

Overlap Panels



01 - Panel | 02 - Polycarbonate Joiner | 03 - End-Cap for Polycarbonate Joiner | 04 - Aluminum Joiner 'C' | 05 - End-Cap for Aluminum Joiner 'C' | 06 - Aluminum Sealing Strip | 07 - Polycarbonate U-Profile | 08 - T-Fastener | 09 - T-Stopper | 10 - Aluminum Span-Bar | 11 - Aluminum F-Profile | 12 - Metal Screw | 13 - Wood Screw | 14 - Aluminum U-Profile

Manufacturer's Lifetime Warranty

SUNPAL panels are guaranteed for water leak-proof performance for 25 years. SUNPAL panels bear a limited lifetime warranty not to lose more than 8% of light transmission for 15 years and no more than 1% per year thereafter, when measured according to ASTM D1003-77. SUNPAL panels are warranted for up to 10 years from the date of purchase not to break or fail as a result of impact by hail measuring up to 20 mm in diameter, in speed of up to 21 m/s. For detailed warranty terms please see Palram website.

Please note: Warranties apply only if the panels are installed and maintained according to Palram specifications and installation instructions.

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