

PERMAWOOD TECHNICAL SPECIFICATIONS



PERMAWOOD SPECIFICATIONS CONTENTS

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1. PERMAWOOD INTRODUCTION

The PermaWood range is manufactured from ABS (a hard, lightweight plastic) and is ideally suited to bathrooms and wet rooms or rooms that have condensation or humidity issues as it is 100% waterproof.

Aesthetics:

Extremely hardwearing and waterproof the PermaWood shutter is also suitable for high traffic areas and is often used in commercial installations.

ABS is a hardwearing and lightweight plastic that is easily moulded. This means that unlike lesser vinyl products in the market the profiles of the frames are far more refined. In addition ABS is far more robust than vinyl ensuring that it will cope far better in daily use.

Frames and Panels:

Limited range of frames available.

Stiles:

Please note the stiles are manufactured in a beaded stile or plain stile.

Louvres:

PermaWood is available in 47mm, 63mm, 76mm, 89mm, 114mm elliptical louvres.

Special Shapes:

Special shapes are not available.

Colour palette:

There are 22 standard colours available; custom colours are available at a surcharge.

PERMAWOOD SPECIFICATIONS

PANEL SIZE LIMITATIONS

Panel structure

The PLANTATION SHUTTERS shutter panel is made up of several parts. To help you understand the panel construction please see photograph.

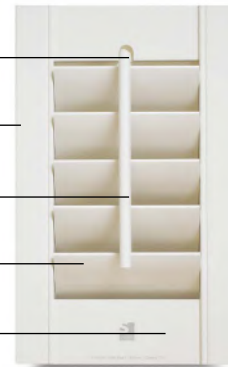
MOUSE HOLE

STILE

TILT ROD

LOUVRE

RAIL



Louvre Size	Width			Height			
	Minimum	Maximum		Maximum number of untracked Bi-fold panels	Minimum	Maximum with mid rail	Maximum without mid rail
		Single hung	Bi-fold hinged shutter/ Multi-fold with Top and Bottom track				
47mm	152mm	550mm	550mm	2	250mm	3000mm	H>1828mm
63mm	152mm	800mm	610mm	2	250mm	3000mm	H>1828mm
76mm	152mm	800mm		2	250mm	3000mm	H>1828mm
89mm	152mm	890mm		2	250mm	3000mm	H>1828mm
114mm	152mm	890mm		2	250mm	3000mm	H>1828mm

NB: Where the panel size limits above are exceeded, warranty on the order line is waived automatically.

NB: When a single hung panel width is less than 228.6mm and used with the following frames: Deco, L, Z and Hang Strip, the stile opposite to the hinge will be rebated.

If panel height is over 1828mm, a Mid Rail is required and if the panel has a Mid Rail but the height from the centre of the Mid Rail to the top of the top rail or to the bottom of bottom rail is still over 1828mm, another Mid Rail will be required.

If you do not specify the Mid Rail location, the order will be held to confirm if a Mid Rail is required. However, if you specify no Mid Rail, you will waive your warranty and manufacture will proceed as per your instructions.

Shutter used for door without bottom support:

In situations where shutters are used for door applications, which do not have any support underneath the panels, the customers must inform PLANTATION SHUTTERS when placing this type of order. (See the following specs for Shutters used in Door applications)

Please note:

- (1) The factory will add extra hinges to support the panels.
- (2) Bigger and Stronger Top and Bottom rails will be added to reduce the probability of the panels sagging and increase shutter intensity.
- (3) If customers fail to notify PLANTATION SHUTTERS that the shutter will be used in door applications, the customers will be responsible for the cost of the any re-order that is submitted.

Please see the following chart for details.

L,R,LR	LL, RR, LLRR
Manufactured with warranty waived	Must order it with track, we will not process it even with warranty waived

SPECIFICATIONS

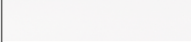

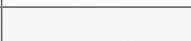







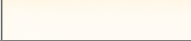
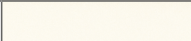
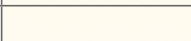
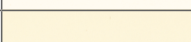
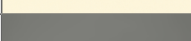
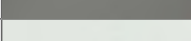
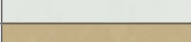
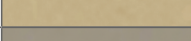
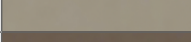
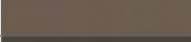

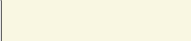
Material	Acrylonitrile Butadiene Styrene (ABS)
Panel Weight	14.69kg M ² *
Paint Colours	22
Stain Colours	✗
Custom Colours available	✓
Louvre sizes	47mm 63mm 76mm 89mm 114mm
Max single panel width	500mm : 47mm 800mm : 63mm 800mm : 76mm 890mm : 89mm 890mm : 114mm
Max multi panels width	550mm 47mm 610mm : REST
Max number of panels hinged together	2
Max and min panel heights	3000mm 250mm
Solid Panels available	✗
Special shapes	✓
Custom Bay Post angles	✓
Stile Type	Beaded Or Plain
Fixed Louvres	✓

* Average Weight

COLOURS

Please note. Colours may vary slightly between dye lots. Shutters for the same installation should be ordered together to avoid variations in colour. Colours may vary slightly from colour samples. For this reason, colour samples should be updated annually.

COLOUR OPTIONS

PERMAWOOD PAINT OPTIONS (28 COLOURS)				
Colour ID	Colour Name		Default Hinge Colour	Optional Hinge Colour
001	Pure White		Stainless Steel	No other colour hinge available with Permaewood
002	Extra White			
003	Silk White			
004	Bright White			
006	Pearl			
007	Ivory Lace			
009	Creamy			
011	Cameo			
012	Crisp Linen			
013	Bisque			
014	Alabaster			
016	Butter			
019	String			
030	Moondust			
032	Sea Mist			
048	Chai			
049	Stone Grey			
051	Brown Grey			
053	Clay			
066	Winchester White			
072	Mattingley			
080	Taupe Grey			

Custom colours are also available at a surcharge

Due to the nature of material manufacturing, colours may vary slightly between dye lots. Please order shutters for the same home at the same time. Slight variations may also occur between the finished products and the colour swatches you use.

2. INSTALLATION STYLES

BACK TO TOP



FULL HEIGHT
Shutter covering the full height of aperture.



TRACKED SHUTTERS*

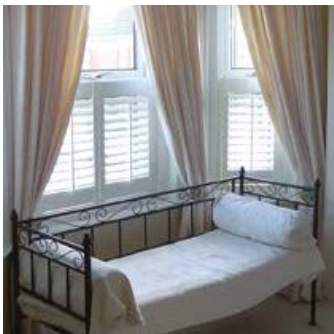
Bi-Fold

Shutters suspended from a top track hinged together in a bi-fold configuration to allow them to be folded back to the end of the track at 90°. Suitable for use with patio doors, wardrobes or as a room divider. May be specified and fitted with or without side frames.

By-Pass

Shutters suspended from a top track. Panels slide behind or in front of one another to open or close. Suitable for use with patio doors, room dividers and wardrobes. May be specified and fitted with or without side frames.

* Refer to the separate track specifications for further details.



CAFE STYLE
Shutter covering only the lower portion of aperture providing privacy and light control but leaving the top portion un-shuttered to maximise light, where privacy is not required.



SHUTTERS USED AS DOORS

In situations where shutters will be used for a door application which does not have support underneath the panels, the customer must inform PLANTATION SHUTTERS when placing the order.



ROOF SHUTTERS
Would not be supplied or covered under warranty.
Please refer to Fiji specifications for roof details.

Panel Configuration

L, R, LR	LL, RR, LLRR
Manufactured with warranty waived	Only available with an evenly tracked installation. Not covered by warranty.

Please note:

1. The factory will add extra hinges to support the panels
2. The factory will add a larger and stronger top and bottom rail. This will reduce the risk of panels sagging.

N.B Customers will be responsible for any EDR re-order where there has been a failure to notify PLANTATION SHUTTERS that the original shutter order was for a door application.

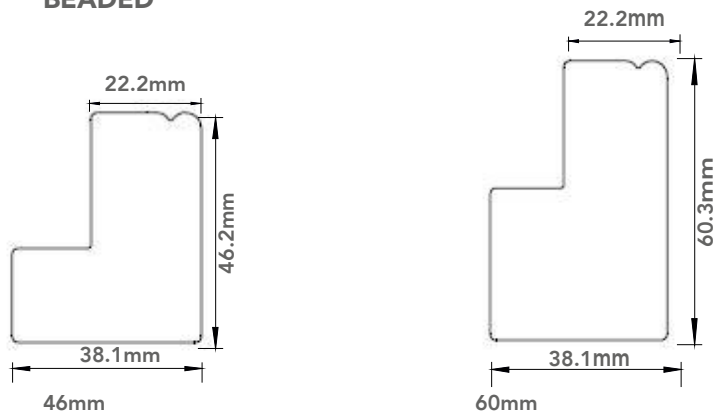


TIER ON TIER
Shutter is split into two halves so the top and bottom panels can be independently operated / opened fully. The standard gap between top tier and bottom tier is 2.5mm. For multi-fold tier on tier shutters only 3 or less multi-fold panels are within warranty.

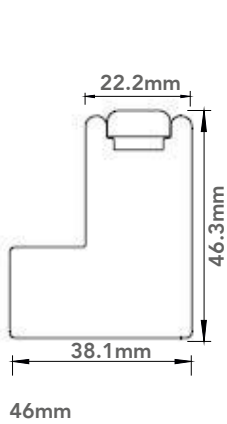
3. FRAMING STYLES

BACK TO TOP

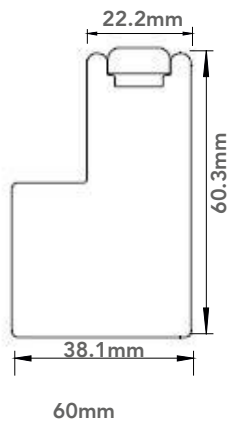
BEADED



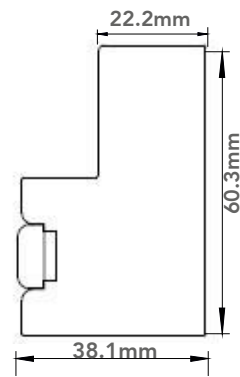
INSERT L



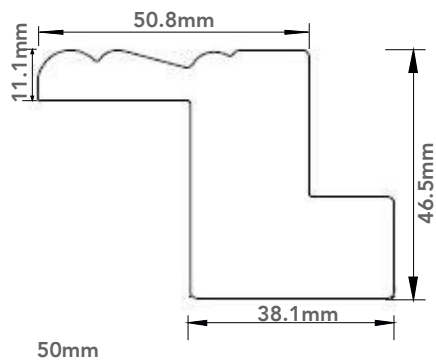
INSERT L



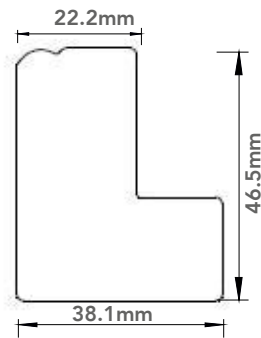
PLAIN DEEP L W/INSERT



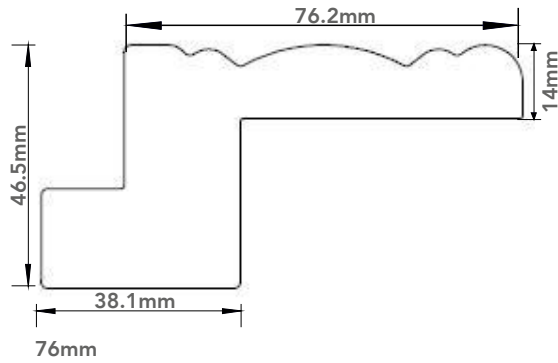
TIARA Z FRAME



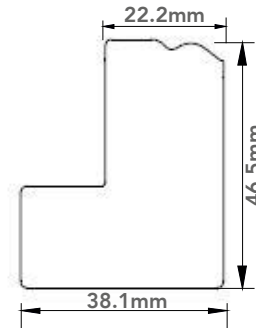
TIARA Z SILL PLATE



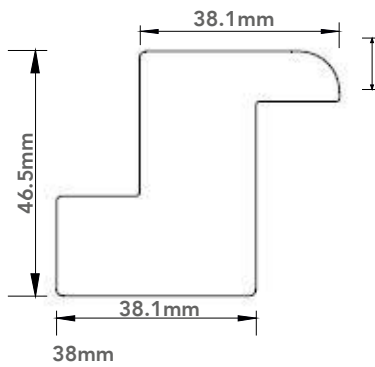
CROWN Z FRAME



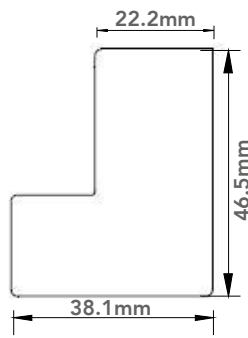
CROWN Z SILL PLATE



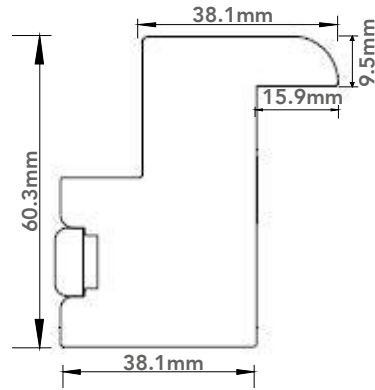
BULLNOSE Z



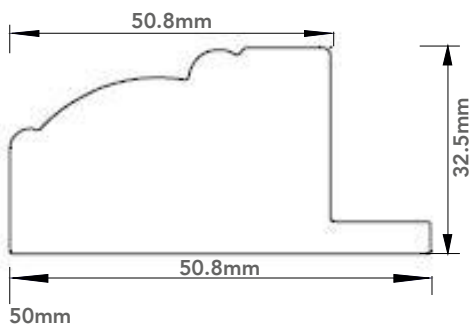
BULLNOSE Z SILL PLATE



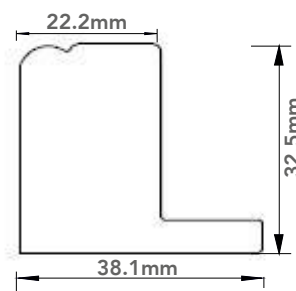
BULLNOSE Z DEEP W/INSERT



CAMBER DECO FRAME*

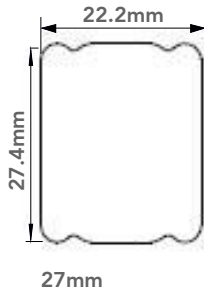


CAMBER DECO SILL PLATE



* Please note this has no inserts in PermaWood

HANG STRIP



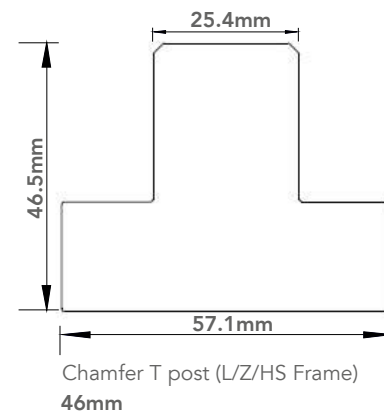
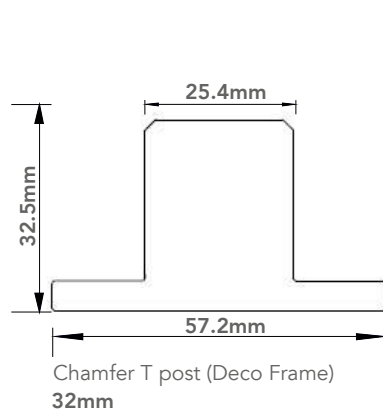
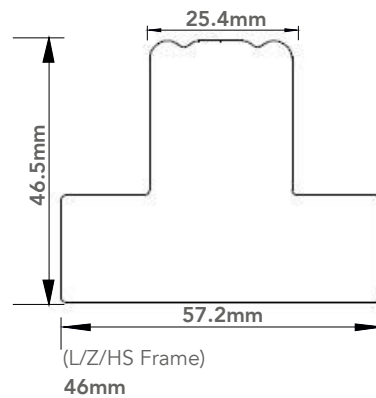
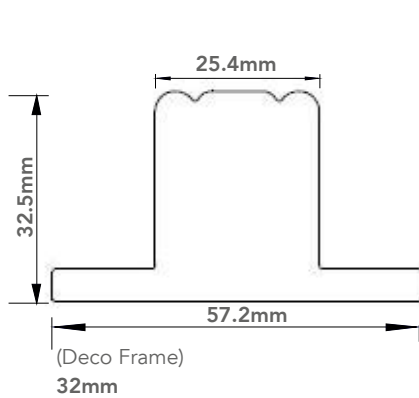
COVER STRIP*



25mm

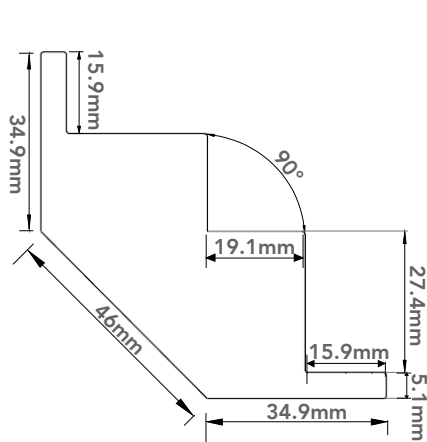
* Cover strips are made in wood.

T-POST

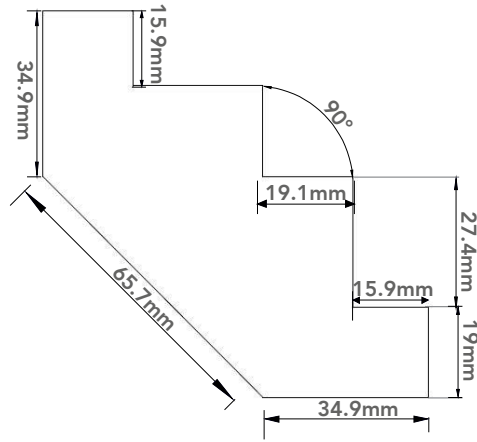


NB. Please note that horizontal T-Posts over 1219mm are not covered by warranty.

CORNER POST



(Deco Frame)
37mm

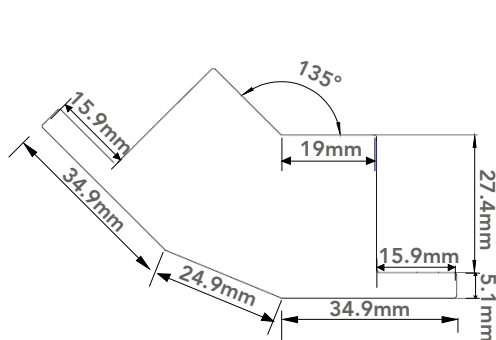


(L/Z/HS Frame)
50mm

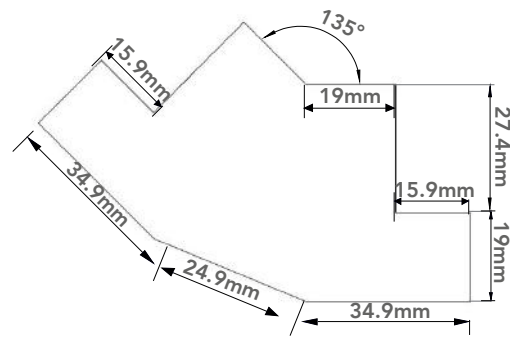
BAY POSTS

Additional custom angles are also available.

135° angle



(Deco Frame)
37mm



(L/Z/HS Frame)
50mm

Frames split when the frames length exceed the below limitation.

When frame lengths (including shutter frames, batten, fascia, header and tracks for track system) exceed the below limitation, then the frames will be split as the below chart describes. Please review the chart for reference.

Shipping Method	Program	Frame Length (L) (mm)
Standard shipping	all programs	3630<L≤7260 (2 sections)/ L>7260 (3 sections)
Airfreight	all programs	3048<L≤6096 (2 sections)/ 6096<L≤9144 (3 sections)

BATTENS

Battens can be butt-jointed as per the drawings below:



Battens and Panels identification: The PLANTATION SHUTTERS order number will be stamped on the bottom of each panel and one end of each corresponding batten to identify which one belongs to which item.

Standard sizes:

Stock Battens are available in the following sizes in all materials

2.5mm x 27mm	5mm x 45mm
3mm x 15mm	5mm x 63.5mm
3mm x 20mm	25mm x 30mm
3mm x 30mm	25mm x 40mm
3mm x 60mm	30mm x 40mm
5mm x 15mm	40mm x 40mm
5mm x 25mm	

Minimum charge one linear meter per batten

Battens are made of ABS.

For batten width less than or equal to 3mm, there will be no warranty if the batten depth is over 100mm; For batten width over 3mm, there will be no warranty if the batten depth is over 200mm.

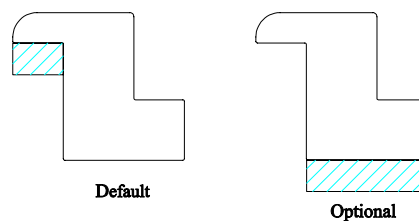
Build-out (Extension)

All buildout will be made of ABS at a surcharge.

- For L/Z/Deco/Hang Strip Frame including T-Post, we will pre-attach the build-out of which the thickness is less than 50.8mm (including 50.8mm) by default.
- For L/Z/Deco/Hang Strip Frame including T-Post, when build-out is over 50.8mm, we will supply build-out loose with holes pre-drilled; also note that for frame not able to pre-drill holes, such as Beaded L Frame, we will supply build-out loose without holes pre-drilled, either.

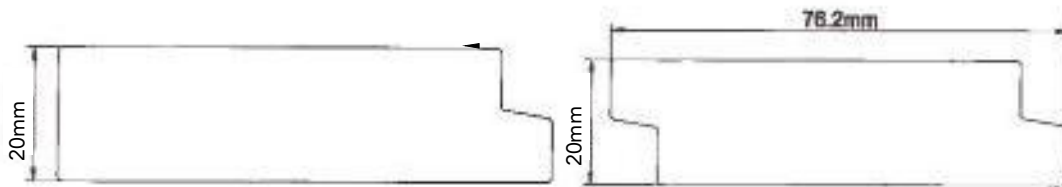
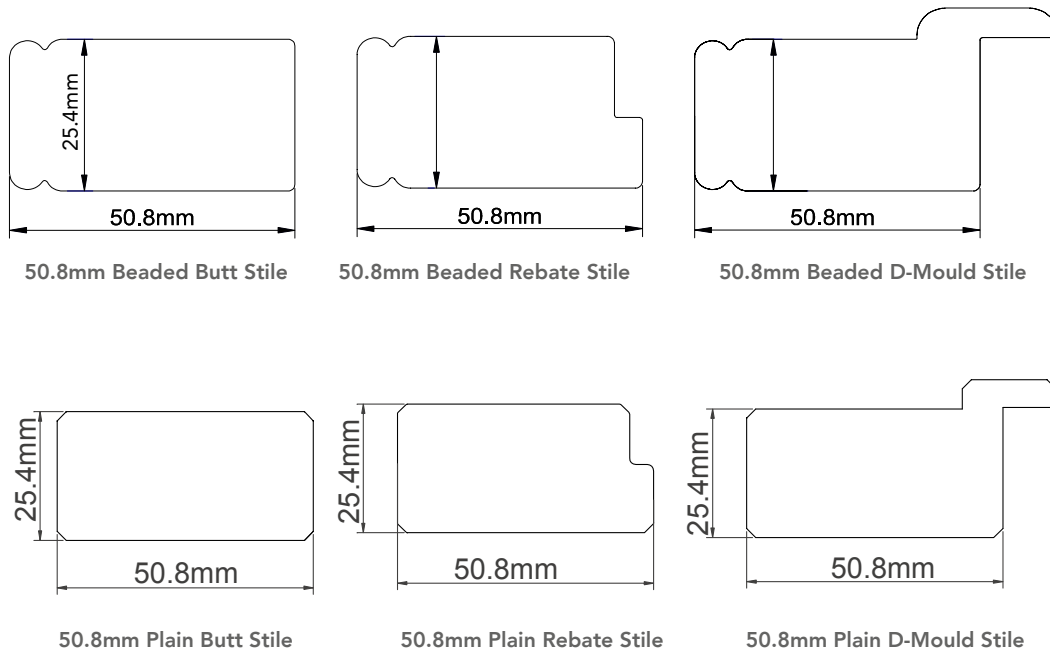
For bay/corner Post, we will supply build-out in every size pre-attached by default.

- For all frames, we will add build-out per the order form. E.g., if the frame type is 63mm Frame, and build-out is 10mm, we will use 63mm L Frame added with 10mm build-out instead of changing the frame type to 46.5mm L Frame added with 27mm build-out.
- Extension for Z Frame: If you want the timber to be added to bottom of Z frame like the drawing on the right, please ALWAYS specify in the special note of the order form, "Add extension to light block section". The DEFAULT EXTENSION will be the left drawing.



4. PANEL DETAILS

STILES



RAILS

By default the factory determines the rail size for each order, unless specified otherwise in the notes on the order form. Unless a mid-rail(s) is specified, top & bottom rails will be the same size. Rail sizes are normally larger than 80mm*. Different rail sizes can be requested though the combination of a fixed overall panel drop and louvre sizes means that it may not always be technically possible to fulfil every custom rail request.

PLANTATION SHUTTERS recommend ordering all shutters for one room at the same time in order to achieve matching rail sizes. Different windows that are side by side or within the same room must be identified and where rail size is important to the overall finish, dimensions must be specified.

*Generally the rail sizes will be larger than 80mm, but it does not mean that rail sizes bigger than 80mm are always with in warranty, the minimum rail size will differ from each order and depend on panel width, height and louvre size. Usually, the rail size will be supplied with in warranty, and only adjusted when the customer requests mid rails exact or specify the rail size. If rails are out of warranty then order will be placed on hold. Permapwood rails larger than 4" in stain maybe supplied with joined rails.

STANDARD MID-RAILS

The standard Mid-Rail size is 76.2mm high. Different mid-rail sizes can be requested though the combination of a fixed overall panel drop and louvre sizes means that it may not always be technically possible to fulfil every custom rail request.

If the panel height is greater than 1828mm one or more mid-rails are required. If the height from the centre of the mid-rail to the top of the top rail or bottom of the bottom rail is 1828mm or more, then another mid-rail is required. Mid-rail positions should be specified at time of ordering. If the order specifies that a mid-rail is not required then all warranties on the order are automatically waived.

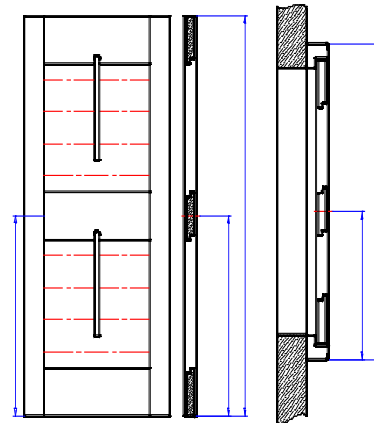
PLEASE NOTE: Normally, the maximum size a mid-rail can be made is 165.1mm, anything over 76.2mm will carry a surcharge.

MID-RAIL continued

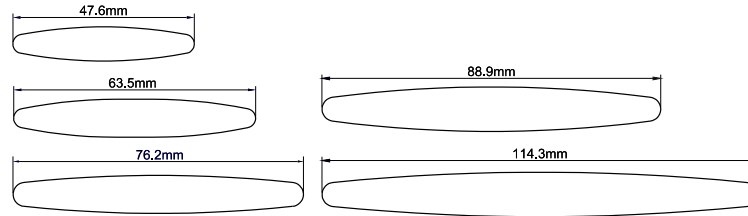
Specified rail position is taken from the base of the shutter set to the centre point of the rail, except for solid based which is from the bottom to the top of the mid-rail.

The centre rail can deviate by + or - by the amount of millimetres shown below. If the mid-rail is to be exact with no deviation then this must be noted on the order under the notes when placing the order.

Louvre Size	Allowable +/- Deviation
47mm	19mm
63mm	25mm
76mm	31mm
89mm	38mm
114mm	51mm



LOUVRES

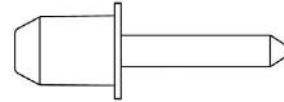


[BACK TO TOP](#)

LOUVRE PIN

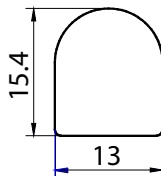
Louvre pins are used to ensure louvre tension. In addition a tension screw is inserted into one louvre in the panel. This is the same for all louvre sizes. Access holes are drilled in the in the stile for each panel to allow the

tightening or loosening of the tension screw, to adjust the louvre tension. Please note therefore additional holes will be visible in the stiles.



TILT RODS

Standard tilt rod



Silent tilt rod

Silent Tilt rods are integrated into the stile and are not visible. Silent tilt rods are available in 63mm, 76mm, 89mm and 114mm louvres. The 47mm does not have this option.

The Silent Tilt rod will automatically be split into 2 parts when the number of louvres connected to the silent tilt rod exceeds the following limit.

Louvre Size	Louvre Quantity	Panel height range
63mm	24	1,289 - 1,385mm
76mm	19	1,276 - 1,372mm
89mm	16	1,289 - 1,385mm
114mm	12	1,289 - 1,385mm

If the louvre quantity exceeds the above limit, the gear tilt control will be equally split into halves. If the louvre quantity is odd the bottom section will have one more louvres than the top section. If the panel has a divider rail, and the louvre quantity above divider rail or below divider rail exceeds the above limit, split tilt rods are also required. Silent tilt is not available when the panel width is less than 220mm.

OFFSET TILT RODS

Offset tilt rods can be ordered. The standard offset is 25mm from the centre of the tilt rod to the end of louvre on hinge side. If a different offset is required please specify the position from the centre of the tilt rod to the end of the louvre on the hinge side in the short notes on the order form.

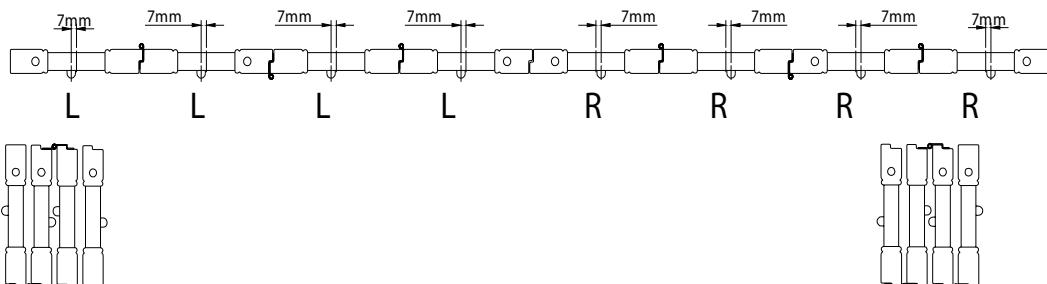
The centre of the tilt rod will be 25mm from louvre end on hinge side of the panel. For Fixed panels, the offset tilt rods will be positioned on the left side for all panels. For special shaped panels, the offset tilt rods will be on the higher side of the stile.

OFFSET TILT ROD FOR MULTI-FOLD SHUTTERS

Multi-fold panels will be made with the tilt rod offset from the centre to enable panels to be folded flat without tilt rods obstructing one another. The standard offset for the tilt rod is 7mm from the centre, i.e. tilt rod will be 7mm to the left of centre for left panels, and 7mm to the right of centre for right panels. Rebates between panels are made right over left. Bi-Fold panels (LR or LLRR) do not require offset tilt rods.

Specified Split Tilt location may be off by half a louver space. Measure from bottom of bottom frame to the top of the louver if order OD of frame, and from bottom of panel to the top of the louver if order net panel size or overall panel size. Please note that the louvres are in close position when measured.

For 47mm louvre can be off by +/-19mm.
 For 63mm louvre can be off by +/-25mm.
 For 76mm louver can be off by +/-32mm.
 For 89mm louvre can be off by +/-38mm.
 For 114mm louvre can be off by +/-51mm.



5. HARDWARE

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Hinges:

Rebate or Self-Mortice hinges are provided depending on the configuration. They are pre-mounted on panels and frames by two screws in the slotted holes. The screw for the third rest hole should be installed at installation. The hinge pins are removable.

Hinge Colours
Stainless Steel (Surcharge) only.

Panel height	No. of hinges
<=1219mm	2
1219mm~1981mm	3
1981mm~2438mm	4
2438mm~3048mm	5
>3048mm	6

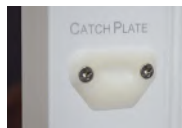
Please Note:

End of hinge to top/bottom of panel is 50.8mm.

PERMAWOOD

Permawood program shutters, use a sleeve and base plate to replace the current magnet and magnet catch plate found in our other shutter programs, (Please refer to the pictures to the side).

You will see that the sleeve has a groove in the top for a screwdriver, this is so that you can adjust the tension of the sleeve.



Base Plate



Sleeve

HOFFMAN KEYS


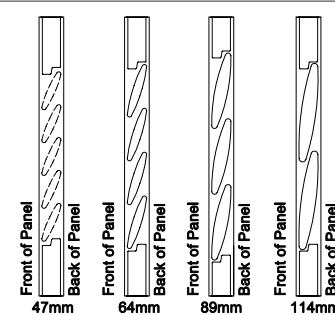
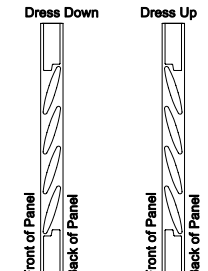
These are supplied and are used to join frame corners together.



PANEL WEIGHT

Panel Weight		
Material	Louvre size	Weight (kg)/m ²
Permawood	47mm	14.69*
	63.5mm	
	76mm	
	88.9mm	
	114.3mm	

* Average Weight

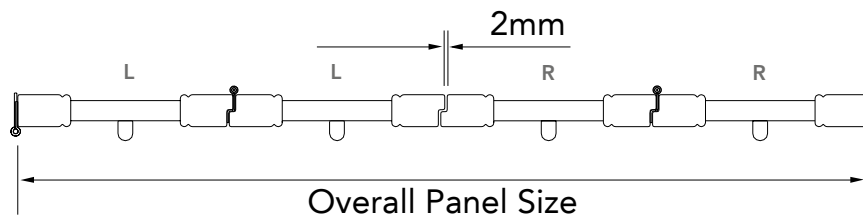
FIXED LOUVRE OPTIONS		
	Fixed Closed Position	Fixed Open Position
<p>Available in two positions: closed or open at angle.</p>	 <p>Front of Panel Back of Panel (default)</p>	 <p>Front of Panel Back of Panel 47mm</p> <p>Front of Panel Back of Panel 64mm</p> <p>Front of Panel Back of Panel 89mm</p> <p>Front of Panel Back of Panel 114mm</p>
<p>The standard default orientation for Fixed louvres is Closed 'Dress Down' with the bottom edge of louvres to the front of the panel. 'Dress Up' option is also available if specified on the order form.</p> <p>NB. Note that normal orientation for <i>adjustable louvres</i> when closed is in the 'Dress Up' state.</p>	 <p>Dress Down</p> <p>Front of Panel Back of Panel</p> <p>Dress Up</p> <p>Front of Panel Back of Panel</p>	

6. SIZING AND MEASURING

ORDER SIZE DEFINITION

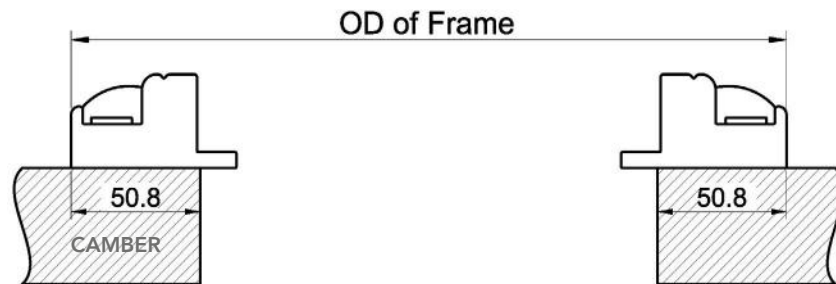
Overall Panel size (OP):

The size given is the overall panel size. The width does not include the hinge space from panel to batten on the left & right side, but does include the gap between panels, the standard gap is 2mm between panels and we will calculate the single panel width based on this measurement (see diagram below). The height given must be net panel height. We will pre-mount the hinges and the magnets and include panel feet and L shape magnet catches in a hardware box. The stile can be Rebate or D-mould, please specify in the relevant section of the order form.



OD of frame:

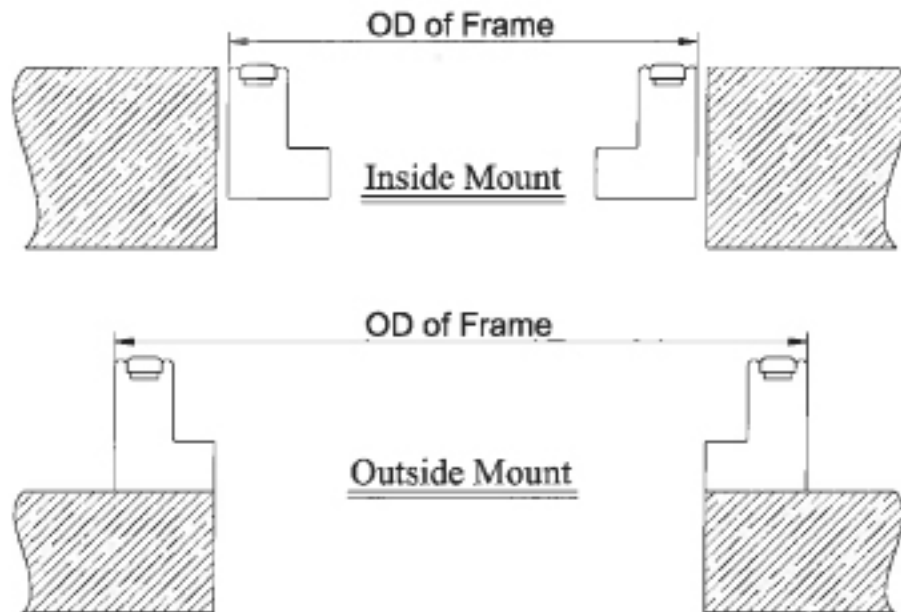
Size given is "Outside Dimension" of the shutter; we will pre-mount the hinges and the magnets, and will include all the necessary hardware in a hardware box. The stiles can be Rebate and D-Mould stile, please specify on the order form.



Camber Deco Frame 50mm: Can only be ordered as outside mount, the size given must be OD of frame size.



"Z" frame: Can only be ordered as inside mount, the size given must be OD of frame size. (Backside of Z frame, refer the drawings).



"L" frame: Can be ordered as inside mount and outside mount, size given must be OD of frame size.

TOLERANCES

Width: The width of the panel can be plus or minus 1.6mm from the order width.

Height: The height of the panels can be plus or minus 1.6mm from the order height.

Mid Rail location: Mid Rail location may be off by half a louvre space. Measure from bottom of bottom frame to centre of Mid Rail if order OD of frame, and from bottom of panel to centre of Mid Rail if order net panel size or overall panel size.

For 47mm louvre can be off by +/-19mm.

For 63mm louvre can be off by +/-25mm.

For 76mm louvre can be off by +/-31mm.

For 89mm louvre can be off by +/-38mm.

For 114mm louvre can be off by +/-51mm.

MOUNTING TYPE

Café style shutter: Please specify on the order form if the shutter is a café style. We will finish the top of the panels and one end of the battens.

If a café shutter is required with a 3 sided frame, it should be 3 sides inverted.

Tier on Tier: The standard gap between the top tier and bottom tier is 2.5mm.

Full height: Regular shutters running the full height of a window.

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