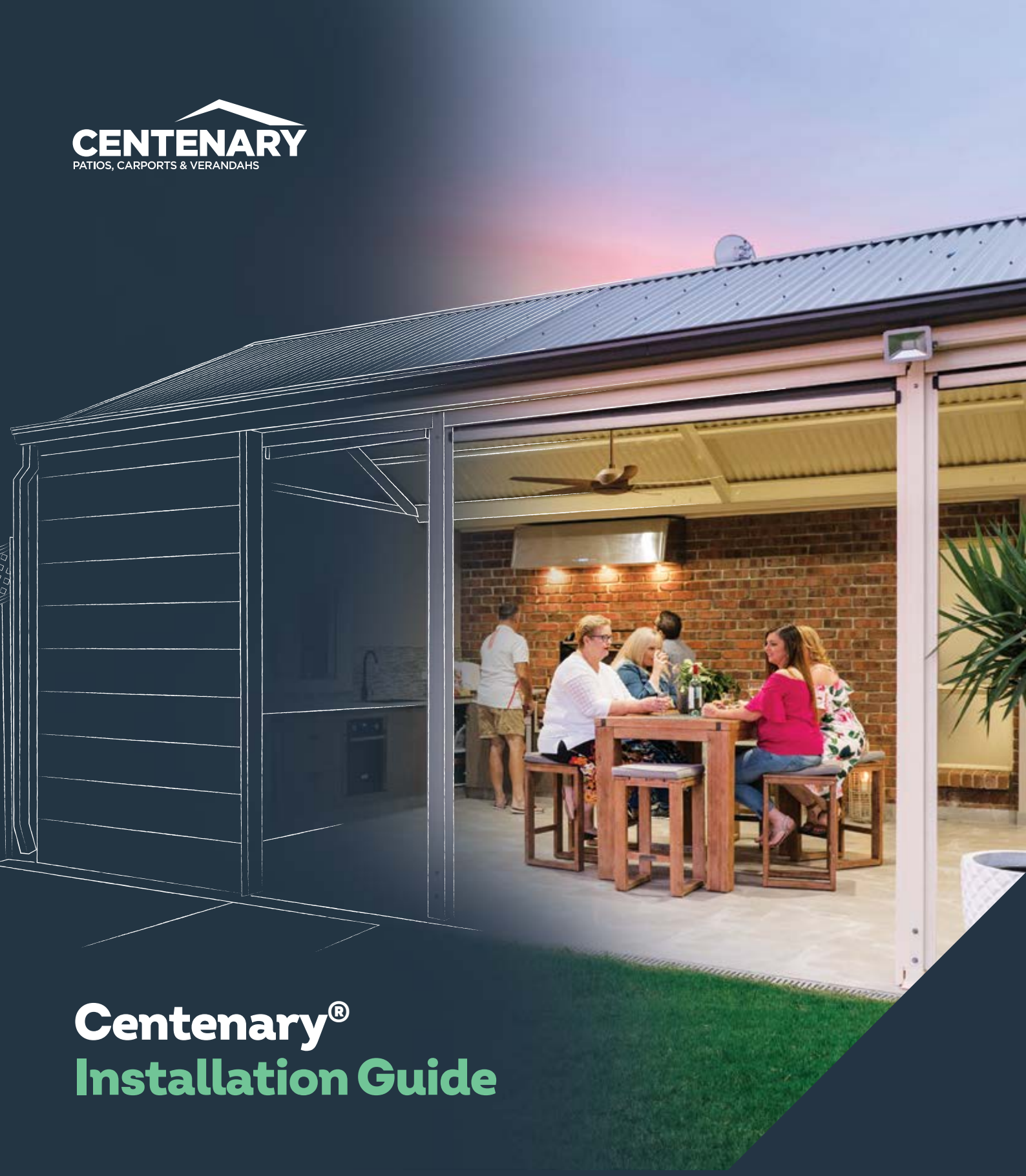
CENTENARY
PATIOS, CARPORTS & VERANDAHS



Centenary®
Installation Guide

fielders.com.au

FIELDERS

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Disclaimer

IMPORTANT NOTE

This document is to be used in conjunction with the plans, drawings and specifications generated by the Centenary® Design Suite software for the specific job. This guide is issued by BlueScope Steel Limited t/as Fielders and is subject to change at their sole discretion. You should check you are using the most up-to-date version of this guide before you start construction. Up to date construction guides are available by phoning 1800 182 255. This guide is intended to be an aid for all trades and professionals involved with specifying and installing Centenary® products and to not be a substitute for professional judgement.

CONDITIONS OF USE

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USE OF GENUINE MATERIALS

Structures in this guide should only be built or constructed using those recommended genuine Centenary® products or approved third party products. Except as otherwise provided in these terms, any warranties only apply to you (if at all) if you use the recommended genuine Centenary® products or approved third party products and methods of construction, recommended in this guide.

CHECK DELIVERY

It is important that you check all materials delivered to site against your bill of materials before you use them in your building or construction to ensure all components have arrived, are of the appropriate quality and are ready for installation.

LIMITATION OF LIABILITY

By using this guide, you accept the risks and responsibility and Fielders will not be under, or incur any liability to you (except to the extent which liability may not be lawfully excluded or limited), for all losses, damages, costs and other consequences resulting directly or indirectly from using this guide (including, without limitation, consequential loss or damage such as loss of profit or anticipated profit, loss of use, damage to goodwill and loss due to delay). To the maximum extent permitted by law, Fielders' liability (whether arising under statute, contract, tort (including negligence), equity or otherwise) to any persons whatsoever in respect of anything done or not done, arising directly or indirectly, by any such person in reliance, whether in whole or in part, on this guide, is limited at Fielders' option, to:

a. in the case of goods, the repair of the goods, the replacement of the goods or paying for the cost of repair or replacement of the goods; or in the case of services, the resupply of services or paying for the cost of resupplying the services.

GENERAL NOTES TO BE READ BEFORE USING THIS GUIDE

This guide has been prepared for a range of designs using Centenary® products. Centenary® kits have been designed as a complete unit. All construction and connection details shall be made in accordance with the relevant standard connection detail drawings contained in this Guide and as generated by the Centenary® Design Suite software for your specific job

BEFORE YOU COMMENCE CONSTRUCTION:

a. We recommended you obtain professional advice to ensure your particular needs are adequately met.

b. You should check with your local government authority to see if any form of prior permission or approval is required. It is your responsibility to obtain all necessary approvals.

c. If you want to construct any attached structure as covered by this Guide, you should seek advice from a suitably qualified engineer to verify the capacity of your existing structure to withstand any additional load arising from the proposed structure. You should also check with your local government authority to determine any specific requirements for the attachment to your existing structures.

d. You should check with your local workplace health and safety authority to see what safety measures you need to put in place prior to and during construction. It is the responsibility of the installer/erector to ensure all local safe work practices are adhered to and the safety of the whole site is maintained at all times

MAINTENANCE GUIDE

To ensure maximum lifespan of your structure, consult the maintenance guide for information regarding maintenance, handling, storage and any other technical assistance you may require.

Before You Start

SITE PREPARATION

Firstly prepare the work area for the construction so that it is safe and easy to work in. Clear the work area of all obstacles and rubbish/debris.

Unpack the kit, crosschecking all the components against the Bill of Materials, and lay them out in a logical fashion. This should be done adjacent to the work area. If there is any discrepancy between what you have received and the Bill of Materials, please contact the store where you purchased immediately, prior to the commencement of work.

HANDLING

To preserve the COLORBOND® steel handling should be carried out using clean, dry gloves. Careless handling or excessive traffic on formed panels should be avoided as it can cause unsightly scuffing and marking of the product. Do not slide material/sheets over rough surfaces or each other.

CARE AND STORAGE

Care and storage of COLORBOND® steel prior to installation is vital to the life of the product when installed. If the product is not required for immediate use then stack the materials/ sheets neatly and clear of the ground, and provide cover as necessary to avoid the product getting wet. A process called capillary action can cause corrosion which may lead to reduced life expectancy or a wet storage stain.

Moisture on sheets of COLORBOND® steel can penetrate between the surfaces causing temporary softening of the coatings and the possibility of minor colour changes or some paint blemishes.

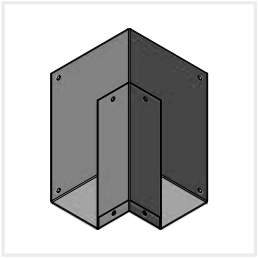
After drying, the coating will revert to its original state. Take extreme care with the affected surface until it has dried and the coating hardness returned to normal.

Glossary Of Parts

Your Centenary® Structure Includes These Components:


BK2


BK3


BK27


BK29


BK4


BK10


BK30


BK33


BK16


BK20

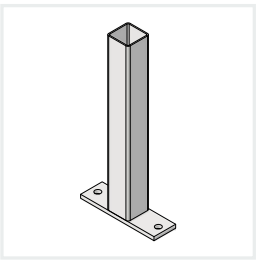

BK34


BK34RB


BK21

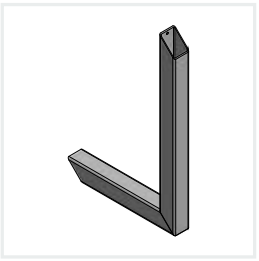

BK22


BK36


BK38


BK22L


BK24


BK39

BK44


BK25


BK26

BK46

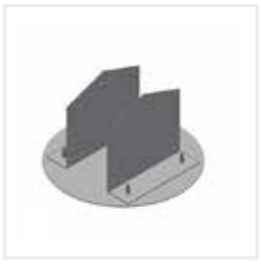
BK49

BK50

BK57

CON1

CON2



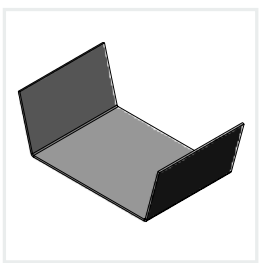
BK74

BK83

CON3

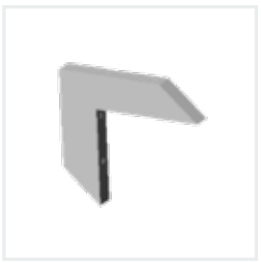
CON4

BK86



BK87

CON5

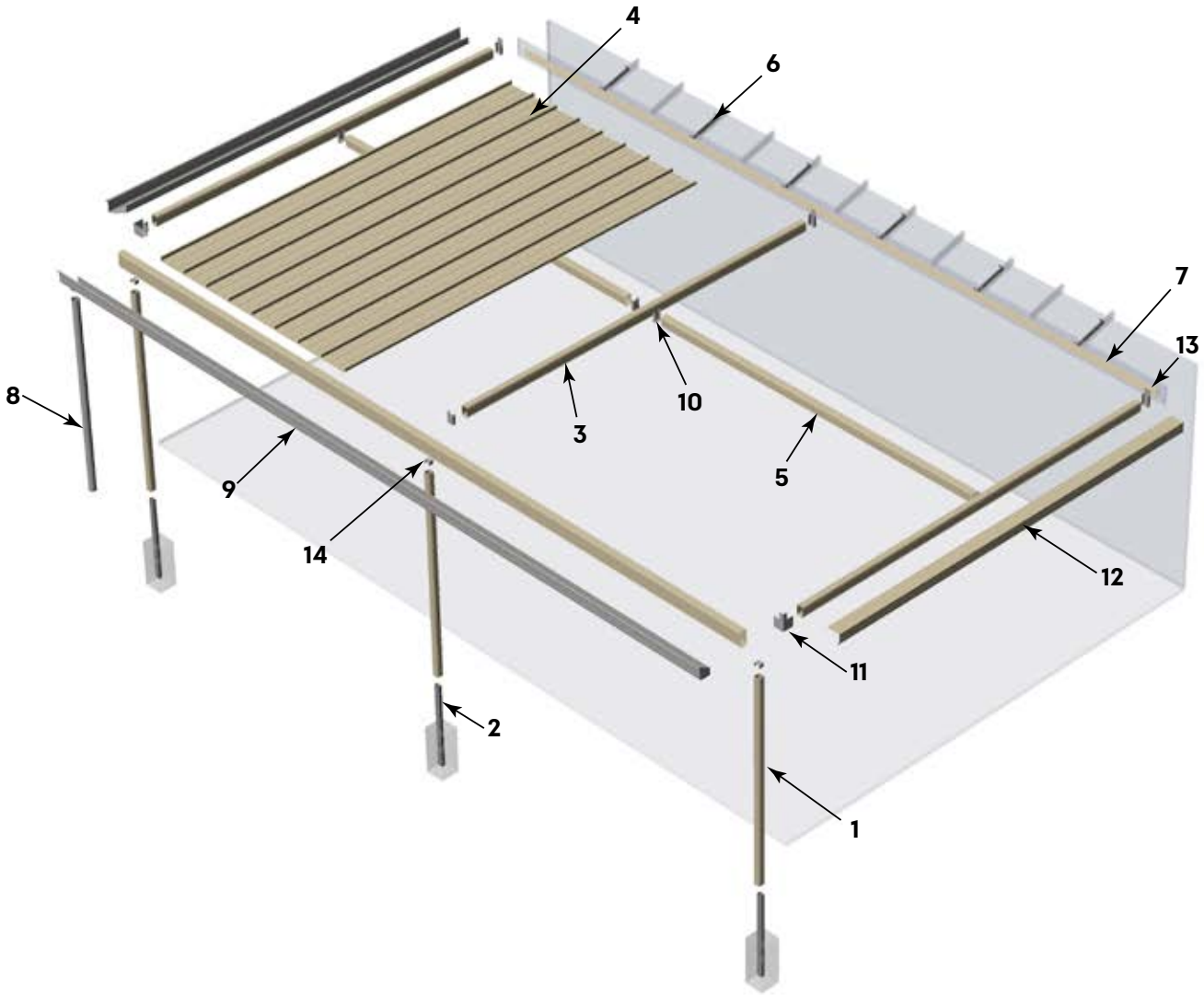


CON7

BK89

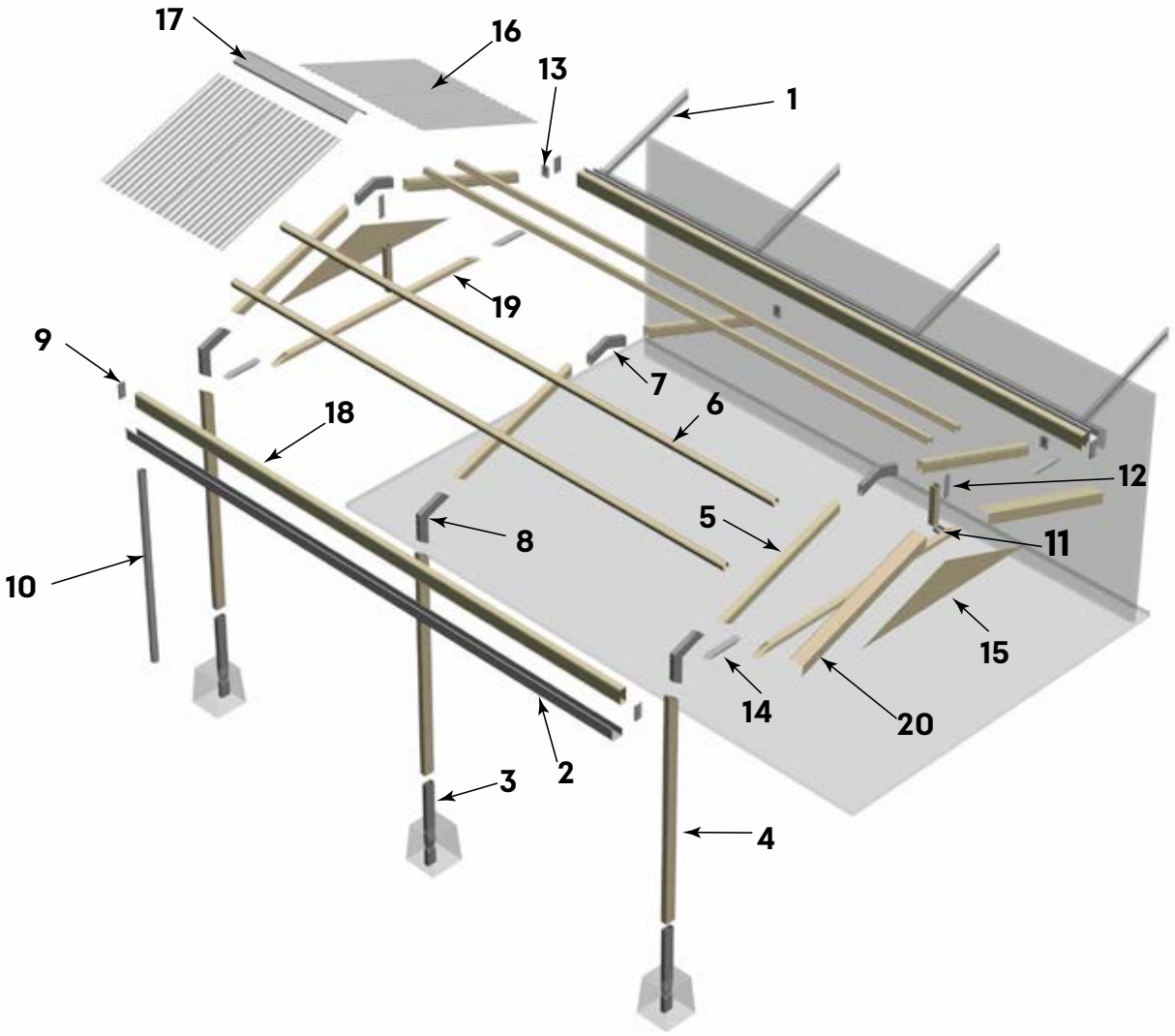
CON13

Overview Diagram: Flat Verandah



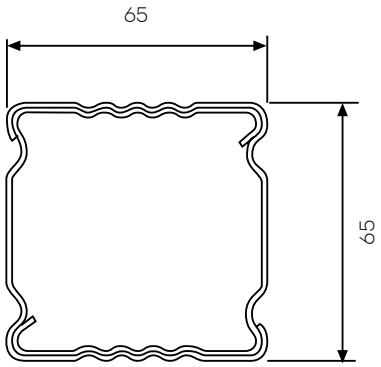
1. Box Beam Post - refer construction drawings for other post types
2. CON1 in Ground Connector
3. Rafter
4. Roof Sheeting
5. Purlin
6. BK26 Rafter/Fascia Bracket
7. Reciever Channel
8. Downpipe
9. Gutter
10. BK2 Beam Connector
11. BK27 Corner bracket
12. Barge Cap
13. BK22 Drop Connector
14. BK2 External Connector

Overview Diagram: Gable Verandah

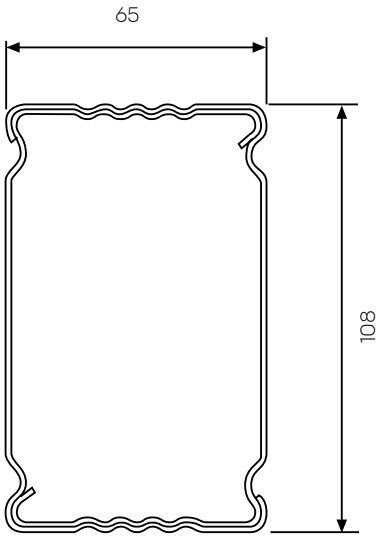


1. BK34 Rafter Attachment bracket - refer construction drawings for all available options
2. Gutter
3. CON 1 Connector - refer construction drawings for all available options
4. Box Beam Post - refer construction drawings for all available options
5. Box Beam Rafter
6. Box Beam Purlin - Purlin on top depicted - inset purlins use BK2 brackets
7. CON 3 Eaves Connector
8. CON2 Ridge Connector
9. BK88 End Cap
10. Downpipe
11. BK2 65 Bracket
12. BK36 Top End Strut Connector
13. BK3 Rafter Bracket
14. BK33 Beam Connector
15. Gable in ll
16. Roof Sheeting
17. Ridge Capping
18. Box Beam Fascia
19. Box Beam In ll Support Beam
20. Barge Capping

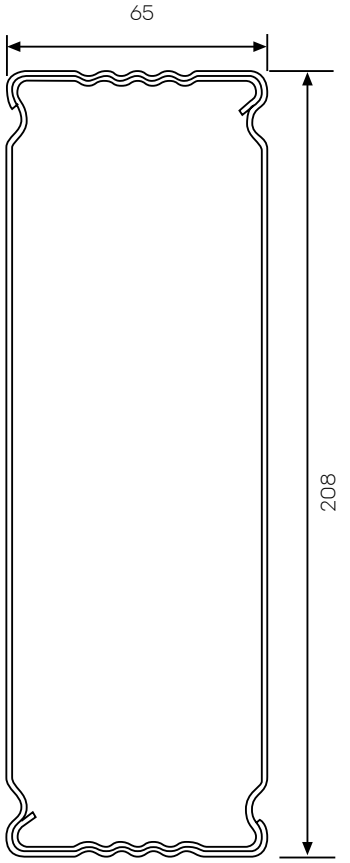
Overview Diagram: Box Beams Dimensions



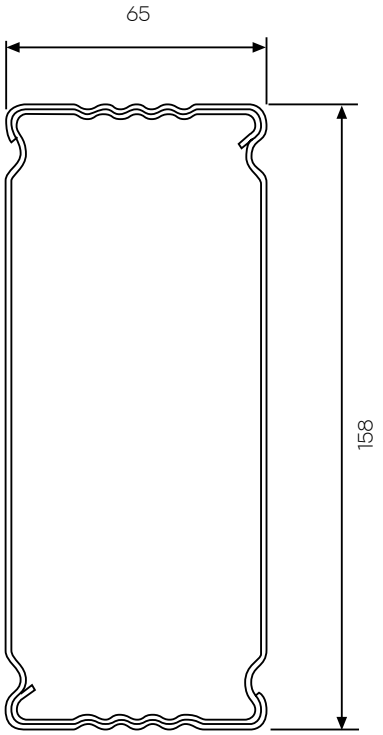
Available in 0.95mm BMT



Available in 0.95mm BMT



Available in 0.95mm BMT



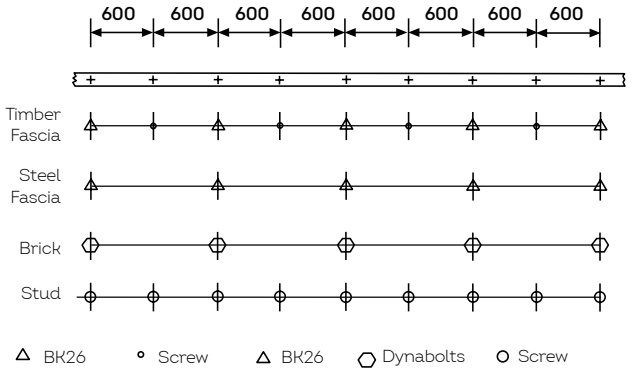
Available in 0.95mm BMT

Attachments

RECEIVER (BACK) CHANNEL

Cut the receiver channel to the overall length of the verandah to the outside of the beams. Apply a silicon seal between the receiver channel and the fascia/ wall etc. prior to fitting. Using **Drawing 1** determine the fixing points and predrill the receiver channel as appropriate.

Receiver (Back) Channel Drawing 1



Important Note: The spacings listed for Timber and Steel fascia are based on a tiled roof. If the roof is steel sheet amend spacings to 900mm to suit rafter spacing.

TIMBER/STEEL FASCIA AND RECEIVER CHANNEL

- For flat verandahs, when fixing to the fascia with a receiver channel, strengthening is required.
- Using the drawings provided to determine the number and approximate location, slide the roof tiles up adjacent to the fascia or for an iron roof remove the roof screws and carefully lift the sheets sufficiently to access the back of the fascia and rafter.
- Fit the **BK26** bracket to the rafter with the end positioned on the back of the fascia. Mark the position of the bracket carefully to allow for a hole to be drilled for the fixing bolt or if possible drill a pilot hole from the back of the fascia **Software Drawing 1581AF.**
- Drill a corresponding hole in the receiver channel to allow for the bolt to be fitted later.

Replace the roof tiles or refix the roof sheets.

FASCIA TIMBER OR STEEL

- Before attaching the receiver channel, determine the position of the rafters and side beams.
- Predrill the BK22 brackets to allow for a bolt to pass through the channel, bracket and fascia (where possible bolt through a BK26).
- Position the BK22 bracket between the fascia and the receiver channel and fix bolt through **Software Drawing 1581AF**.

WALL - TIMBER OR BRICK

- After attaching the receiver channel, determine the position of the rafters and side beams.
- Predrill the **BK2** brackets to allow for fixings suitable for the surface you are attaching to. Transfer the positions on to the wall and predrill for screws or dynabolts (as appropriate) and fit the **BK2**'s in position **Software Drawing 1583AF/1584AF correct drawing will be generated by software.**

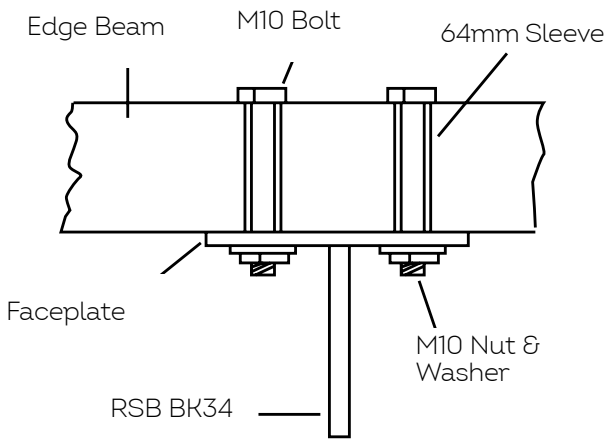
TIMBER/STEEL FASCIA AND 'HOCKEY STICK'

- For pitched verandahs, when fixing through the fascia, a 'hockey stick' type connector is used.
- The connectors available are the BK34 or combination of BK34RB/BK38 for gutter attachment or BK34RB/BK39 for a riser style
- Using the drawings provided, determine the number and approximate location of the brackets. Ensure that the location selected does not coincide with an intermediate beam or join as the bolts may interfere with other brackets. Try to space them evenly and start as close to each end as possible. If the support beam is cantilevered on the end, two brackets may be required close together to provide greater support. The builder will need to determine if the method of attachment is suitable.
- Slide the roof tiles up adjacent to the fascia or for an iron roof remove the roof screws and carefully lift the sheets sufficiently to access the back of the fascia and rafter.
- Determine which side of the rafter you will be attaching the **BK34** to and cut a slot in the fascia to allow the bracket to slide through from the outside. Ensure the slot is flush with the side of the rafter so that the bracket will fit flush.
- When using the BK34, using the plans, determine how far the bracket must protrude to support the beam and allow for the gutters and mark the depth on the bracket. Slide the **BK34** through the slot to the desired depth and clamp the bracket to the rafter.
- Ensure the bracket is level and fix the bracket to the adjacent rafter using the bolts supplied (4 bolts). Position the bolts as close to each end as possible and one in the middle.
- Install the end brackets first and then fit a string line to line up the remainder in case the fascia itself is not straight.
- When using the combination BK34RB/BK38 or BK34RB/BK39, determine the distance required off of the fascia and cut back the BK34RB, BK38 & BK39 to suit. Apply a bead of silicon to the cut edge of the BK38/Bk39 where it contacts the fascia. Fix the BK38/BK39 with teks provided per Software Drawing numbers 1331F, 1331AF, 1332F or 1332AF correct drawing will be generated by software.

FITTING THE SUPPORT BEAM

- Remove the CORSTRIP® film and lift the support beam up to the face of the rafter brackets **BK34**. The support beam fits to the house side of the BK39 with the 2 bolts provided per Software Drawing 1331F or 1331AF correct drawing will be generated by software. Prop and clamp in place at the correct height ensuring that it is level.
- Mark the locations of the holes from the brackets on to the support beam. Remove the beam and place on the work benches. Drill a pilot hole in the centre of the marks and then proceed to drill through to the other side. When all the holes are drilled, turn the beam over and widen the holes on this side to 13mm so that the crush tubes **BK21** can be fitted to the bolts. These tubes prevent the beam from compressing when the bolts are tightened **See below.**.
- Fit the **BK88** end caps to the beam. Using the plans provided, install any other intermediate brackets required to this face of the beam.
- Refit the beam and clamp in place. Bolt the beam to the rafter brackets using the hexhead bolts provided and the crush tubes. Avoid tightening the bolts until they are all fitted.
- Recheck that the beam has not moved and then tighten all the bolts. Do not overtighten to avoid causing deflection to the beam face.
- Proceed to the next stage of construction.

Fitting the BK21 sleeves



Post Base Installation

INGROUND POSTS

- Using the plans provided measure and set out the post locations and mark on the ground taking note of locations of in ground services i.e. stormwater
- From the engineering documents, check depth and width of the required footing, dig and remove soil.
- Set up string lines to determine the exact post location.
- Determine the length of post required and trim as necessary. Part fix four Teks® screws into the base of the post to provide a 'key' into the concrete.
- Assemble the framework. Prop and brace the framework ensuring the posts are plumb in both directions.
- Pour in a firm mixture of 20MPA concrete into the holes. Check the frame and posts are still in line and plumb in both directions. Check diagonals for square. Ensure concrete is tapered away from the post to prevent water ponding. It is recommended to wrap the base of the post to be set in the concrete with 'Denso' tape.
- Allow the concrete to fully cure prior to removing the supporting framework.

INGROUND CONNECTOR WITHOUT POST

- Using the plans provided measure and set out the post locations and mark on the ground taking note of locations of inground services i.e. stormwater.
- From the engineering documents, check depth and width of the required footing, dig and remove soil.
- Set up string lines to determine the exact post location.
- Support the connector prior to pouring concrete.

INGROUND CONNECTOR WITH POST

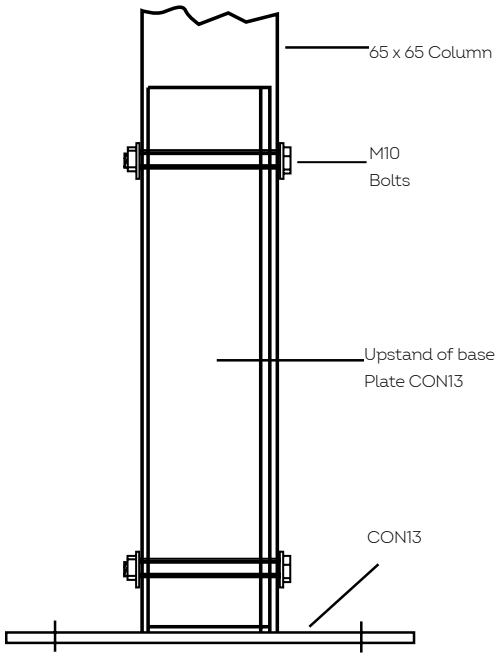
- Using the plans provided measure and set out the post locations and mark on the ground taking note of locations of inground services i.e. stormwater
- From the engineering documents, check depth and width of the required footing, dig and remove soil.
- Set up string lines to determine the exact post location.
- Assemble framework and bolt the **CON1** connector to the base of the post. Ensure the framework is square and level. Prop and brace the framework ensuring the base of the post is above the finished ground level.
- Pour in a firm mixture of 20MPA concrete into the holes. Check the frame and posts are still in line and plumb in both directions
- Check diagonals for square. Ensure concrete is tapered away from the connector to prevent water ponding.
- Allow the concrete to fully cure prior to removing the supporting framework.

Post Installation

SLAB CONNECTOR (BK4, BK16, CON4 AND CON13)

- Check with your local government authority that the slab is suitable for this method of fixing. Centenary® do not accept liability for failure of the slab or the fixing.
- Using the plans provided measure and set out the post locations and mark on the slab.
- Set up string lines to determine the exact post location.
- Place the connectors on the slab and mark the hole locations. It is recommended that the connectors are fixed to the slab with 12mm chemical anchors. Drill the holes as required and fit the anchors and connectors, taking note to ensure the connectors are level - i.e. if the slab has a fall the connector may need to be packed on the low side to ensure the post will be plumb in both directions. Do not erect the frames until the anchors have cured.
- Ascertain the required post length and trim if necessary. Assemble the frame and fit the posts to the connector. Check the diagonals for square. Ensure adequate bracing and support are utilised until the structure is complete.

External Connectors (CON4 & CON13)

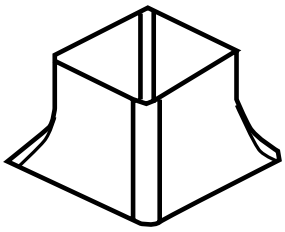


Important Note: The Centenary® box beam post must not touch or extend below ground level. The chemicals in concrete, paving sand and soil will cause corrosion of the COLORBOND® steel from which the post is manufactured. Except for free standing slab connectors, we supply post shoes to conceal the gap between the base of the post and the ground. These shoes are not designed for uneven surfaces.

A. BK16 (ATTACHED STRUCTURES ONLY)

- Using the plans provided measure and set out the post locations on the underside of the fascia beam.
- Fit the supplied **BK16** bracket to the underside of the fascia beam with four Teks®.
- Slide the post over the **BK16** and fix with two Teks® per opposing beam faces.
- Fit the base of the post as per previous section – if a post shoe has been supplied, fit this two piece bracket around the post and screw together.
- Complete the frame assembly.

Decorative Post Shoe

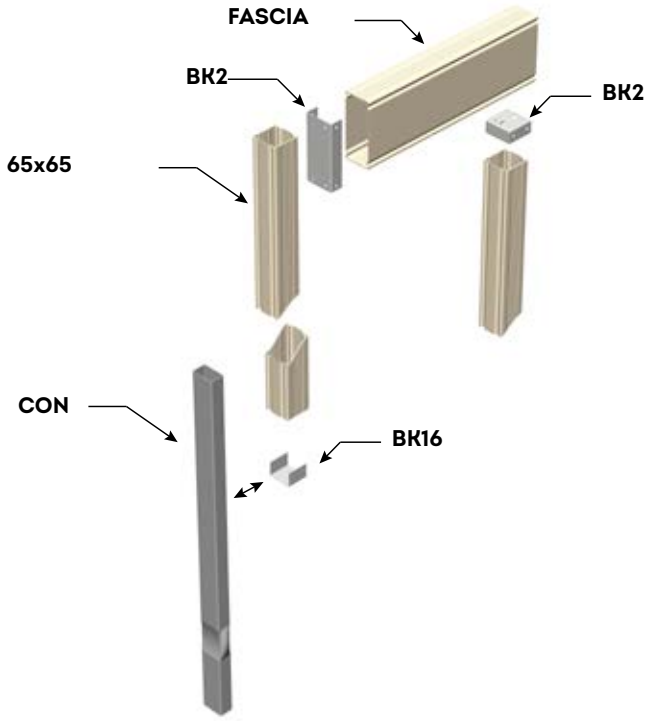


Frames

FLAT STRUCTURES

- Using the drawings provided, identify the external fascia beam. Remove the CORSTRIP® film from the beam. Align the beam so that the seam is to the top of the outside of the beam.
- Fit the **BK88** end caps to each end with rivets **Drawing 11**. If the beam is in sections, join the sections with a **CON5** connector **Software Drawing 1067F** with four 10 x 16 Teks® per face, per edge. You may choose to join the beams on the ground or as you erect the frame.
- If there are intermediate beams or side fascia beams, mark their location on the beam. Fit the required bracket to the beam using four Teks® per bracket **Software Drawing 1026F**.
- If the structure is attached, fix the post brackets to the underside of the beam with four Teks®.
- Prop and erect the frame, loosely fixing the frame together as you construct it. Take special note of the fall required. Where 1 degree is nominated on the plan but the roof length is greater than 3000mm, it is recommended to go to a 2 degree fall to overcome the roof deflection tolerance and subsequent water ponding.
- When the fascia beam is set at the correct level measure each post and cut to the correct length. Refer to the software plan to determine if posts are fitted under the beam or adjacent.
- Once the frame is fully erected, check for square and plumb and then tighten the screws fully. If concreting the posts in, this can now be done.
- If there are purlins in the design, mark the locations and fit the brackets to the beams. Check the purlin length and trim if necessary. Fix all purlins in place.
- You can now set up the gutters as required and proceed to fitting the roof sheets.

Typical Beam Attachment Details



STANDARD GABLE

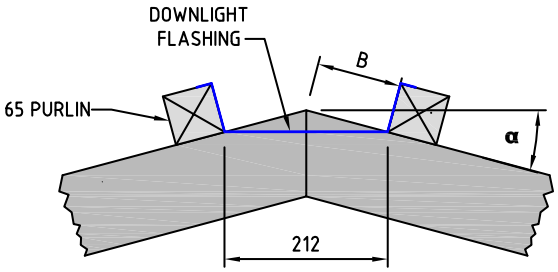
- Make up the front and rear rafter sets. The front and rear rafters have a different cut at the base compared to intermediate rafters. Please refer to the software plan for the correct details.
- Fit the BK33's to the end fascia beams as per **Software Drawing 1597F**
- Find the **CON2** connector and slide the pre-drilled end of the rafters over the connector. Fit the steel button head bolts into the holes; do not tighten the bolts at this stage. Ensure the join at the ridge is tight and neat. When satisfied with the join fix a Tek® midway between the bolts on the top side. Turn the rafter set over and fix a Tek® midway between the bolts on the underside. If the join still needs adjusting remove the screws and reposition. The join should now be firm and neat. Refer to **Software Drawing 1610F.**
- Tighten the Steel button head bolts.
- Lift the rafter sets into position in the **BK33** brackets and fix with Teks® as per **Software Drawing 1597F**.
- If the gable has intermediate rafter sets, use the plans provided to measure and mark the location of the BK3 rafter brackets. The top of the bracket must be in the same alignment as the ends. Refer **Software Drawing 1160F or 1160AF.**
- Assemble the rafter sets as per the end gables.
- Check the software plan to determine if the purlins are inset or fitted on top. Refer to the relevant software drawing. Refer to table on page 17 for the correct spacing of the ridge purlins to suit the design.
- If CFL24 Flashings have been provided, cut and fit these between the rafters to the top of the fascia beam.
- Fit the downlight tray to the ridge purlins prior to fitting of roofsheets.
- The roof sheeting can now be installed.

Downlight Trays

Where a downlight tray has been specified, the ridge purlins must be correctly spaced to suit the flashing. See the following table and construction drawings for the required dimensions.

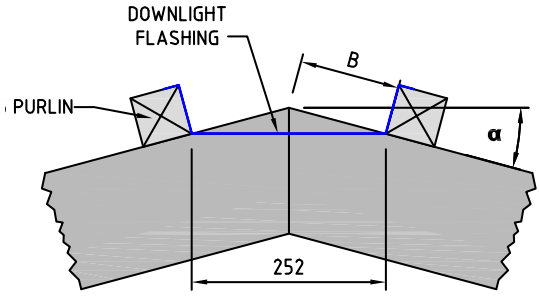
108 Frame

Roof Pitch 'a'	Purlin Distance From Rafter Apex 'B'
15°	110mm
20°	113mm
25°	117mm
30°	123mm



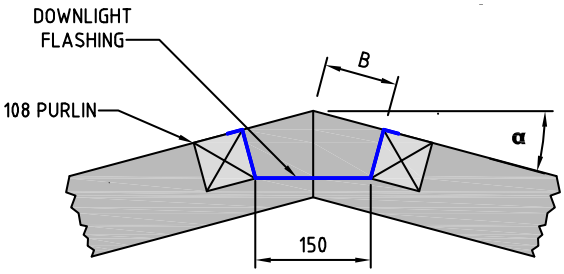
158 Frame

Roof Pitch 'a'	Purlin Distance From Rafter Apex 'B'
15°	131mm
20°	134mm
25°	140mm
30°	146mm



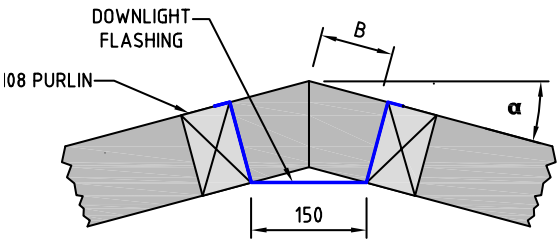
108 Frame, 65 Purlin-Freespan

Roof Pitch 'a'	Purlin Distance From Rafter Apex 'B'
15°	131mm
20°	134mm
25°	140mm
30°	146mm



108 Frame, 158 Purlin-Freespan

Roof Pitch 'a'	Purlin Distance From Rafter Apex 'B'
15°	107mm
20°	119mm
25°	133mm
30°	149mm



Gable Infills

GABLES NOT ADJACENT TO AN EXISTING STRUCTURE

- Fix the infill brackets, BK30, to the top of the fascia beam. Refer to the relevant Software Drawing for infill panel details.
- Cut the infill panels to suit the opening. The top edge should finish flush with the top of the rafters.
- If the panels require painting, this should be done before they are fixed in place.
- Fix the panels to the face of the rafters.
- Fit the CFL06 flashing to the bottom of the infill beam.

SUGGESTED CUTTING LAYOUT

- Gable infill cladding - Refer to the design and Software Construction drawings for the suggested cutting layout if required

Flashings

REAR INFILL FLASHING

- Cut and fix the rear infill flashing to the outside of the rafters and over the existing gutter.
- Cut the infill panels to suit the opening. The top edge should finish flush with the top of the rafters. The bottom edge can sit on or just above the infill flashing.
- Fit the required flashing to drain rainwater into the existing house gutter where required.
- If the panels require painting, this should be done before they are fixed in place.

BARGE FLASHING

- The barge flashing can now be fitted. Trim to the correct length and fix to beams and roof.
- On the gable ends, first trim the barge flashing so as to allow for the ridge flashing to be fitted.

Gutters

- The gutters will need to be cut to the exact length required. Note where return gutters are required, the gutter will need to be mitred on the corners. This may be in the form of a preformed mitre or a special corner bracket depending on which gutter type was chosen.
- Peel back the CORSTRIP® film and locate and fit the stop ends where required, rivet and silicon seal the stop end.
- Determine the position of the downpipe outlet to line up with a post where possible. Mark the location of the outlet on the gutter and cut out the hole. Rivet and silicon seal the outlet in position.
- Locate and fit the gutter suspension clips to the fascia beams with 10 x 16 Teks® at minimum 900mm centres.
- Remove the remaining CORSTRIP® film and lift the first gutter in place sliding the back of the gutter under the suspension clips. Adjust the gutter to give the required fall toward the downpipe position.
- Lift and fit any remaining gutters into position, rivet the gutter into the mitres and silicon seal.
- Fit the internal gutter straps into the bead of the gutter and fix back to the beams.
- Remove all swarf from the gutter.

Downpipes

- Measure the height of the downpipe required. Cut the bottom length to suit and join both top and bottom lengths.
- Fit the completed downpipe to the outlet and rivet in place.
- Fit the downpipe brackets, bending where required and fix in place.

Fitting Roof Sheets

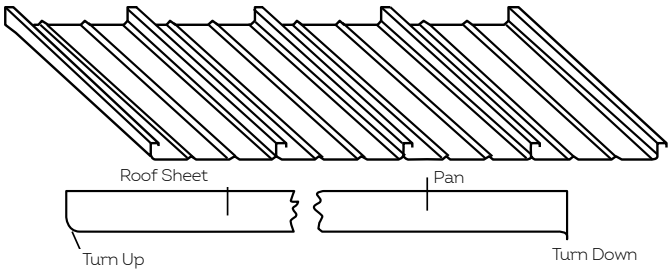
FLAT ROOFS

- Ensure the frame is square and plumb before commencing laying of the roof sheeting as the sheets will brace the frame and lock it together.
- Mark the receiver channel and fascia beam at 1lm to 1.5lm intervals from the opposite end of the sheet laying starting point. This will allow you to check that the sheets are square to the finishing edge of the roof as you progress.
- Turn up 10mm of the pan at the end to fit into the receiver channel and turn down the pan at the gutter end. This can be done carefully with pliers or with a turn down tool.
- Fit the foam strip into the receiver channel. Refer to the relevant software drawing.
- Remove the CORSTRIP® from the roof sheet and fit the end hard into the receiver channel foam.
- Fix the roof sheets down to the beam with the supplied Teks® with seal.
- Rivet the roofing through the underside of the receiver channel.

PITCHED ROOFS

- Ensure the frame is square and plumb before commencing laying of the roof sheeting as the sheets will brace the frame and lock it together.
- Mark the fascia beam and purlins at 1lm to 1.5lm intervals from the opposite end of the sheet laying starting point. This will allow you to check that the sheets are square to the finishing edge of the roof as you progress.
- The sheets should be placed with the side overlaps facing away from the prevailing weather. Remove the CORSTRIP® film from the roof sheet and position so that the sheet overlaps the gutter by 50mm minimum.
- Fix the roof sheets down to the beam and purlins, with the supplied Teks® with seal.

Sheet Fitment Drawing



Fitting Roof Lights

- Where Light panels have been selected, please refer to the plan drawing provided. Some roof profiles require the Light panels to be supported on both sides by the metal roof sheeting. Use the supplied screws and washers where indicated and ensure the holes are enlarged in the light panels to facilitate expansion where required. **DO NOT STAND OR WALK ON LIGHT PANELS**

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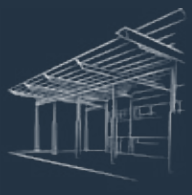
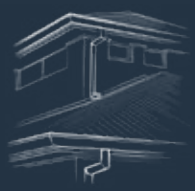
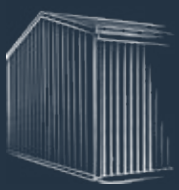


Roofing and Walling

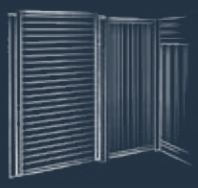


Gutters, Fascia and Rainwater Goods

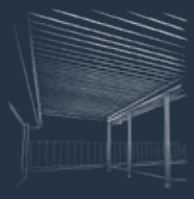
Flooring and Formwork



Sheds



Fencing



Patios and Carports

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