



Photographs are indicative only, and may contain elements not supplied in kit.

Construction Guide

Free-standing Skillion (Flat Roof) Patio
Free-standing Skillion Awning



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1. Disclaimer

IMPORTANT DISCLAIMER ABOUT THIS CONSTRUCTION GUIDE

IMPORTANT NOTE: This document is to be used in conjunction with the plans, drawings and specifications generated by the software CcBuilder for your specific job.

Date of Issue November 1, 2010

This guide is Version 001 issued on 1st November 2010. Lysaght Building Solutions Pty Ltd (LBS), may make changes to this guide in 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 044 151

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Use of Genuine Materials

Structures in this guide should only be built or constructed using those recommended genuine LYSAGHT products or approved third party products. Except as otherwise provide in these terms, any warranties only apply to the Customer if you use the recommended genuine LYSAGHT products or approved third party products and method 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 LBS 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, LBS 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 LBS's 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
- (b) in the case of services, the resupply of services or paying for the cost of resupplying the services

Warning

The roof sheeting and supporting structure have been designed as "No Foot Traffic" structures. Roof sheeting and structural members should not be walked on during or after construction. Signs stating "No Foot Traffic" should be installed on the roof in accordance with this document and any local workplace health and safety legislation. Any defect or damage caused by unsuitable roof traffic is excluded from your warranty.

2. General notes to be read before using this guide

This guide has been prepared for a range of designs using LYSAGHT products.

The information in this guide is suitable for use only in areas N1 (W28) - N3 (W41), and where a tropical cyclone is **unlikely** to occur as defined in Australian Standard AS4055 Wind Loads on Housing.

Lysaght Living Collection® 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 CcBuilder for your specific job.

For all structures in this guide the following notes apply

- These designs use LYSAGHT FLATDEK® roof profiles and FIRMLOK® beams.
- The design allows for the structure to be freestanding.
- Skillion designs incorporate gutter to all sides.
- Post height must not exceed 3000mm from ground level to underside of beam.
- The roof structure is designed for NO FOOT TRAFFIC.

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) 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.

The maintenance guide is available from the following web site www.lysaght.com

3. Glossary of terms

CONCRETE FOOTING The concrete base to the post which anchors the structure against wind uplift.

CORE DRILLED FOOTING

When an existing concrete slab does not meet engineering requirements, a core is drilled through the slab to allow a concrete footing to be poured under the slab and around a post.

GUTTER

Carries water to the downpipe.

HEADBEAM/RETURN BEAM

Using FIRMLOK® beams, the headbeam supports the roof sheets.

LIGHT PANEL

As it is a similar profile as the steel roofing, it can be fitted between the metal roof sheets to provide a source of light where required.

POST CONNECTOR (BASE)

An internal connector that attaches the post to the concrete slab with a screw anchor.

TEK®

A self drilling screw for metal used to join components together.

PURLIN

Attaches to rafter/return beam with connectors to carry roof sheets.

4. Component Assembly Diagram

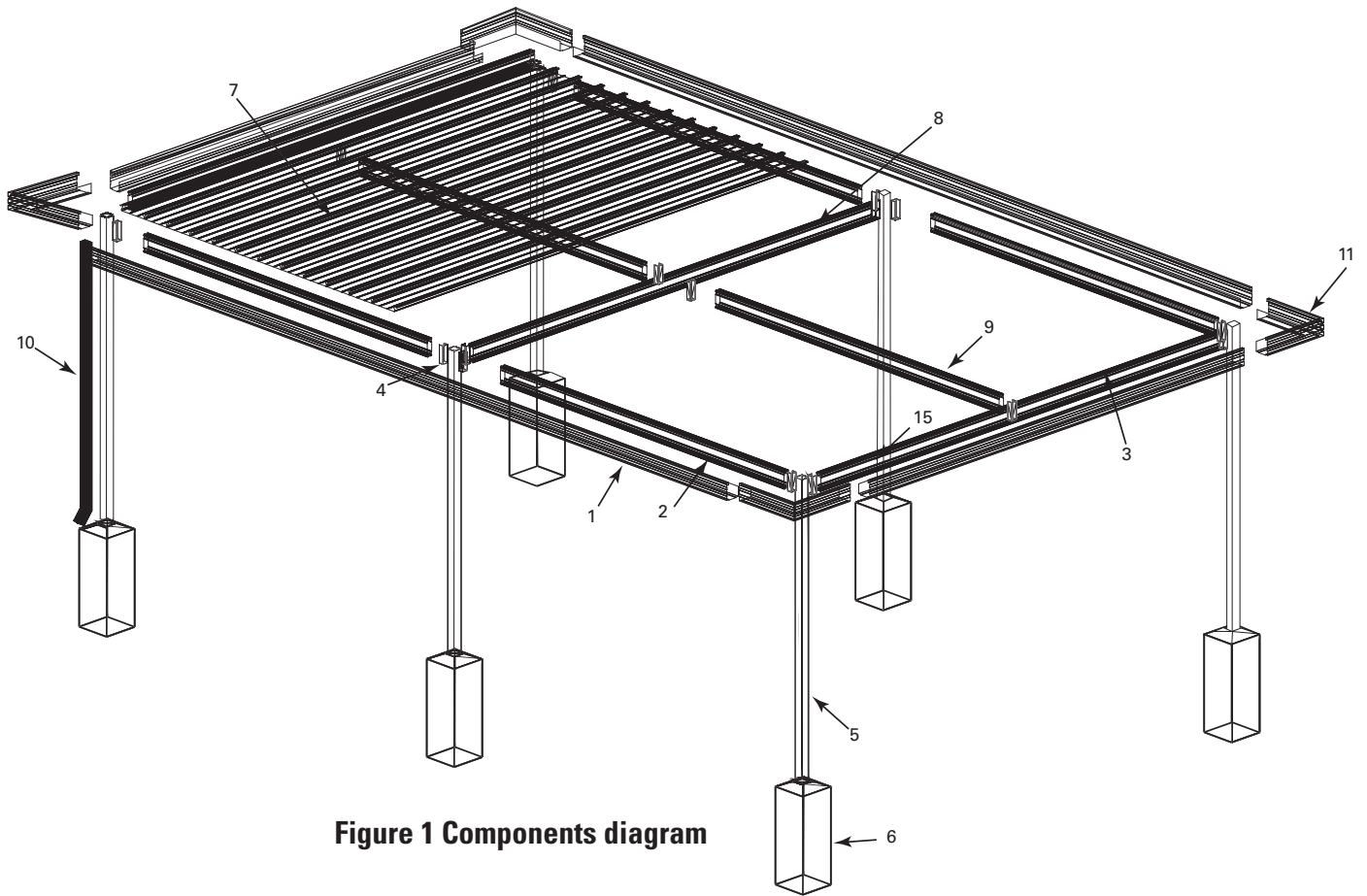
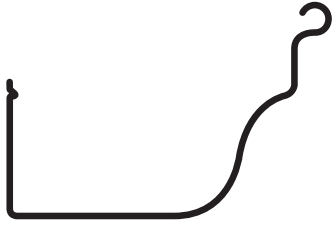


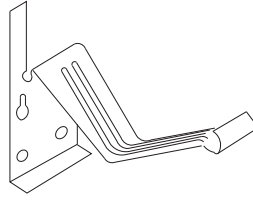
Figure 1 Components diagram

1. Gutter
2. Headbeam
3. Return beam
4. Beam Connector
5. Post
6. Footing
7. Roof sheeting
8. Rafter
9. Purlin
10. Downpipe
11. Gutter connector

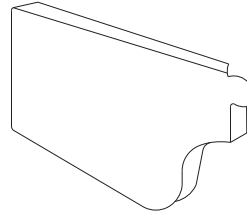
5. Components



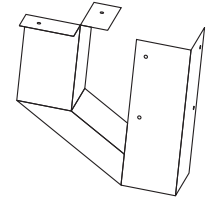
**OGEE Gutter
(GOG)**



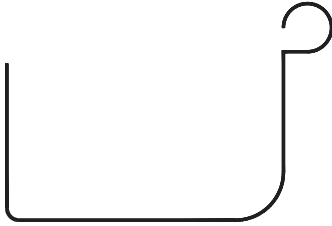
**OGEE Gutter bracket
(OGIGPB)**



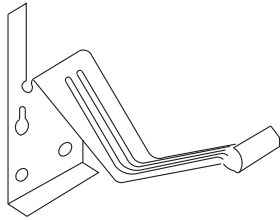
**OGEE Gutter stop end
(OGSEL, OGSER)**



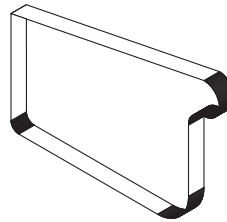
Gutter Corner (EXG)



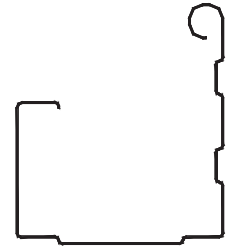
**Quad Gutter
(GQA)**



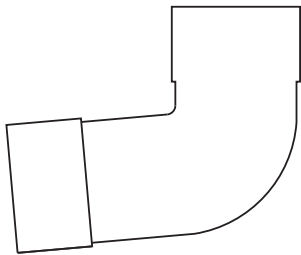
**Quad Gutter bracket
(QIGPB)**



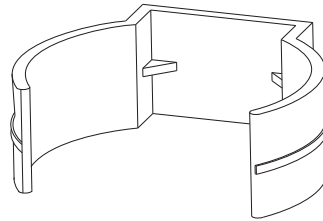
**Quad Gutter stop end
(QSEL, QSER)**



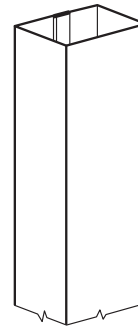
Sheerline Gutter (GS)



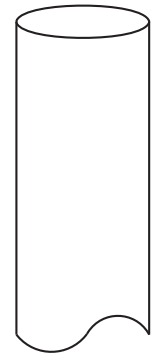
PVC Elbow (EL6590/8090)



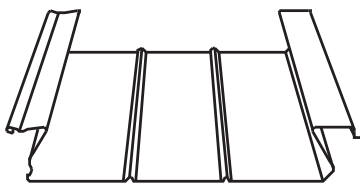
**Downpipe strap
(DP65S/80S)**



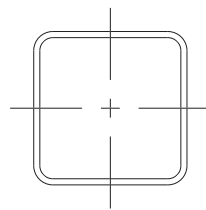
**Steel Downpipe
(DP10050/75)**



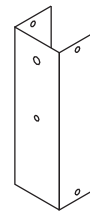
**PVC Downpipe
(DP65/80)**



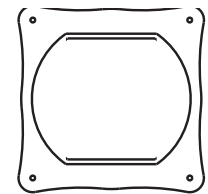
**FLATDEK Roof Sheet
(RS5)**



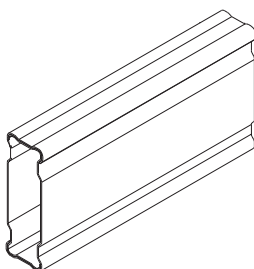
Steel Post (PS75/90)



**Beam Connector
(CONB100/150/200)**



PVC Outlet (OL65/80)

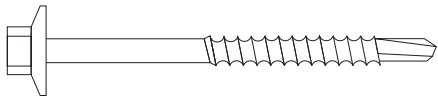


**Firmlok Beams
(BS100/150/200)**

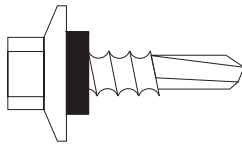


Silicone (SILIC)

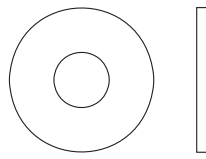
5. Components (cont.)



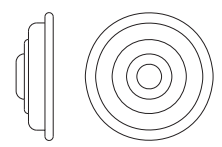
**Metal Tek® screw
(FT65M/FT45M)**



**Metal Tek® screw
with washer (FT20MN)**



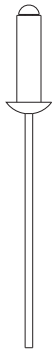
**Metal Washer
(WASH8)**



**Washer for
fibreglass (WGFG)**



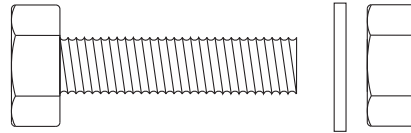
**4.0mm Rivet
(FR64)**



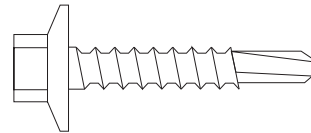
**3.2mm Rivet
(FR72)**



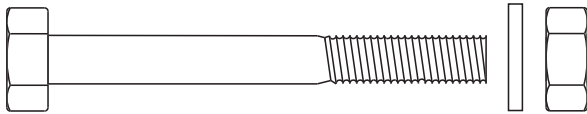
**Long 4.0mm
Rivet (FR80)**



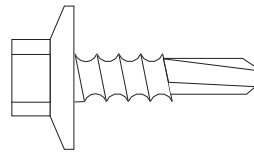
**Nut, hex head bolt and
washer (FBH20)**



**Metal Tek® screw
(FT30M)**



**Nut, hex head bolt and washer
(FBH30, FBH50, FBH60)**



**Metal Tek® screw
(FT20M)**



**Nut, Cup head bolt and
washer (FBC110)**



Roof sign

6. Getting started

Please read the following instructions carefully before starting the project.

Suggested tools

- Ladders
- Plank
- Saw horses
- Adjustable stands
- Spirit level
- Electric drill (battery operated) and drill bits
- Angle grinder
- Electric lead
- Personal safety equipment
- Pop rivet gun
- Socket set
- String line
- Assortment of hand tools

Site preparation

Firstly prepare the work area for the construction so it is safe and easy to work in.

Clear work area of obstacles and debris.

Unpack the kit and crosscheck all the components against the Bill of Materials. This should be done adjacent to the work area.

If there is a discrepancy between what you have received and the Bill of Materials, please contact the store where purchased immediately and prior to commencement of work.

Skillion structures

Roof is supported by a freestanding structure.

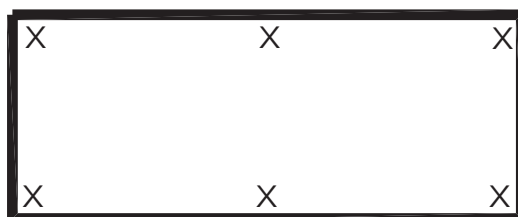
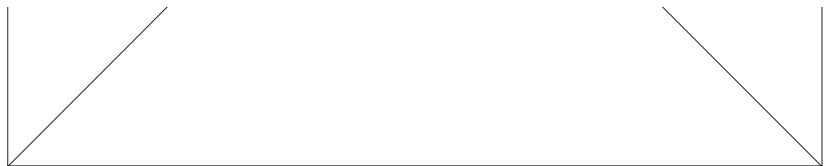


Figure 2 Plan view of awning

7. Fitting of posts and beams

YOU WILL NEED

BEAMS-RAILS	POST
CORNER CONNECTORS	SCREW ANCHOR
GUTTER BRACKETS	FIXINGS
FIXINGS	FOOTINGS

Determine the post position and mark on ground.

From the Certified drawing, check depth and width of footing, dig and remove soil.

Refer to the Plan for length of post, add depth of footing, deduct 100mm and cut to length.

Prepare bottom of post as per Certified drawing.

Attach brackets for beams to sides of post.

Place posts in holes and clamp in plumb position.

FIXING OFF THE POSTS, FIT BEAMS

With posts in position and clamped, identify beams and cut to required length less 5mm and remove the plastic from the ends; place beam in the brackets on sides of posts and fit one Tek each end to hold the beams in place.

SQUARE THE PROJECT

(NOTE: FOR PLUMB USE A BUILDERS SQUARE TO POSITION ALL BRACKETS)

With all the beams/posts in position you can now square the frame.

If your project is open on three sides you will be able to square the frame by measuring the diagonals.

Diagonal measurements must be the same.

Square and plumb posts and temporarily brace in position.

Mix concrete as per manufacturers instructions and pour into holes while checking for plumb.

When concrete has set, fit off the remaining Tek[®]s to beams as per drawings.

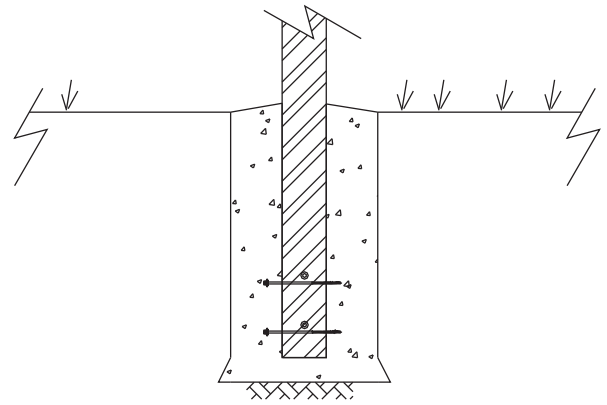


Figure 3 New footing in ground

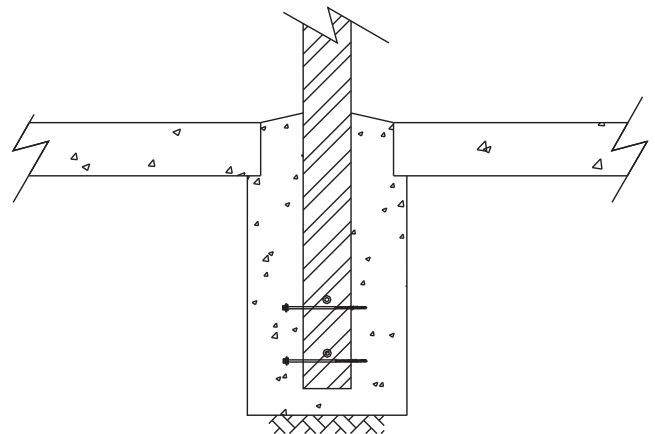


Figure 4 Footing core drilled through existing slab

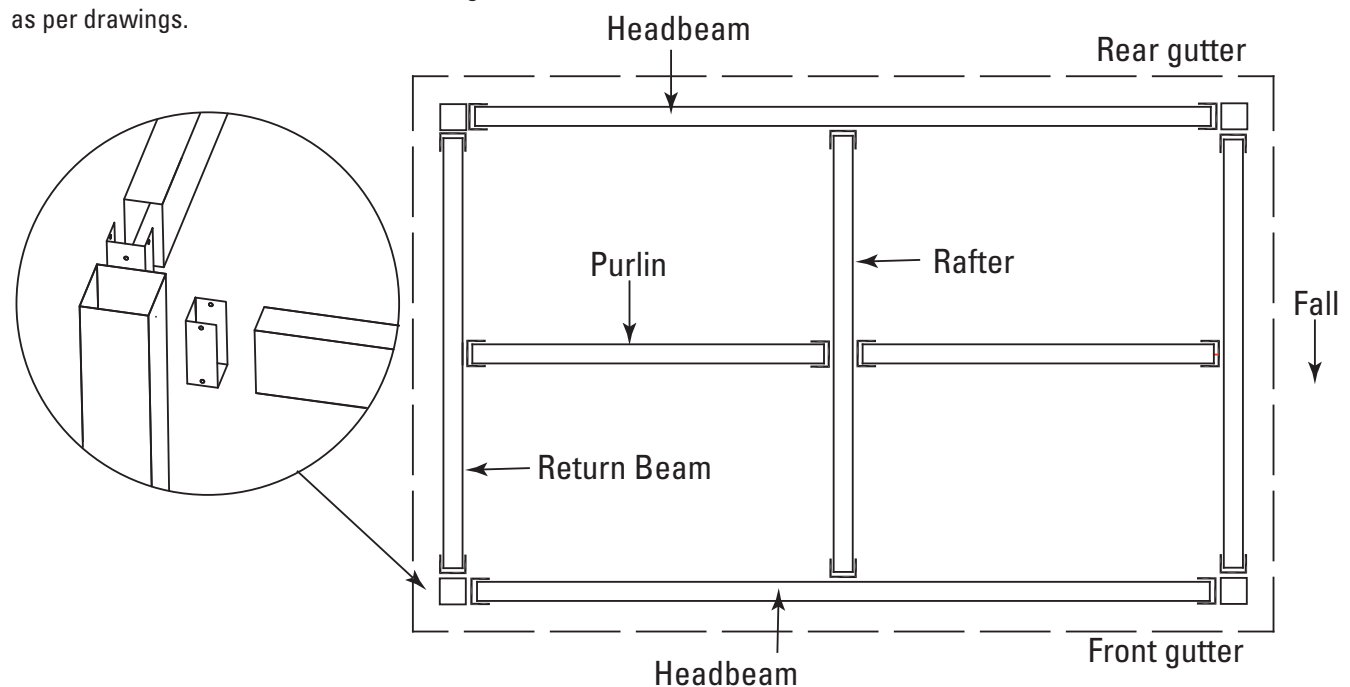


Figure 5 Plan view showing beams and connectors

8. Fitting rafter and purlin

YOU WILL NEED:

RAFTER

RAFTER CONNECTORS

FIXINGS

If the roof span requires a purlin, a rafter may need to be installed.

Note:

A purlin-rafter can be of a smaller dimension to the headbeam, due to engineering calculations.

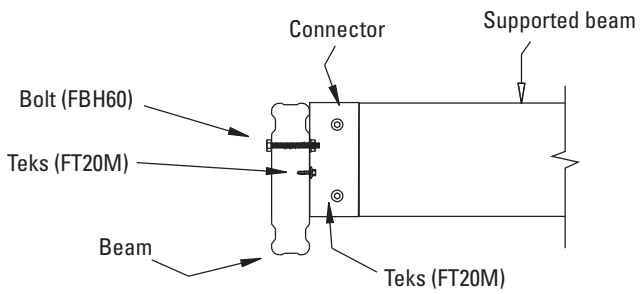


Figure 6 Beam to beam connection

Fix connections per drawing (Figure 6) where the purlin fits into a return beam. This is the typical connection where a purlin attaches to a rafter. See the CcBuilder drawings for the details of beam to beam and beam to rafter connections.

9. Fitting gutters

YOU WILL NEED:

GUTTER

GUTTER CORNERS

FIXINGS

The design has gutter on all sides.

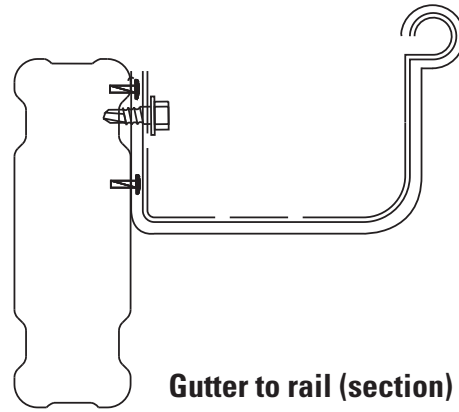
On a support, mitre cut gutters to the required length and fit cast gutter corners using rivets or fit pre-fabricated corner.

Checking the measurement on your plan, measure from the outermost edge of the fitted gutter corner along to the desired length and mark. Using the gutter corner bracket, align the corner of the bracket over the mark and remark the gutter allowing for the bracket. If 6000mm is the plan length, then this will be from outside of gutter corner bracket to outside of gutter corner bracket at the other end.

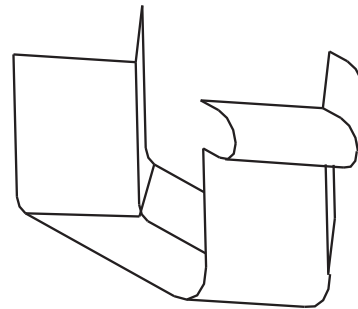
Remove the plastic covering from gutter before attaching the gutter corner and fixing with rivets.

Fit gutter brackets to beams. Lift gutters into position on rails/beams and fit into gutter brackets.

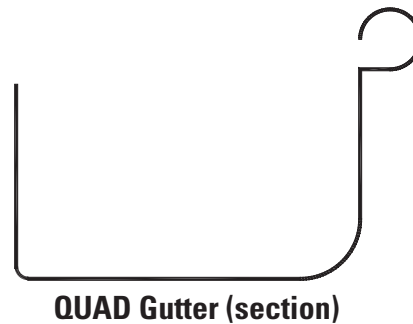
Bend the end of the bracket over the outside edge of the gutter.



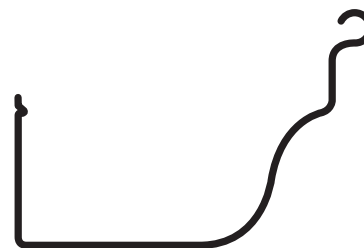
Gutter to rail (section)



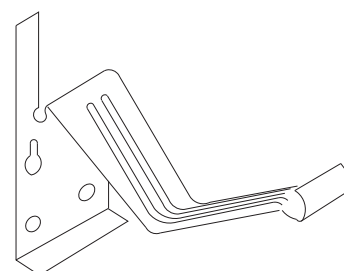
Gutter corner bracket



QUAD Gutter (section)



OGEE Gutter (section)



Internal gutter bracket

10. Prepare downpipe

YOU WILL NEED:

DOWNPIPE

OUTLET

DOWNPIPE STRAP

RIVETS

Place downpipe outlet on bottom side of front gutter in required position and mark internally around base.

Drill a pilot hole in bottom of gutter and then remove with snips. This can be done when preparing front gutter.

Rivet outlet to outside bottom edge of gutter where required.

Fix downpipe straps to the post with 1 rivet.

Fit supplied downpipe together using silicone to join connections. (Figure 7)

Fix off as per CcBuilder drawings.

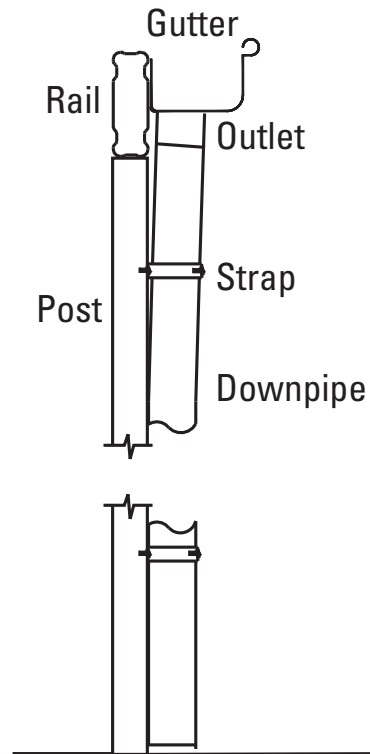


Figure 7 Downpipe (elevation)

11. Fitting Flatdek

Note: Read the following carefully as it is difficult to separate sheets.

Slide sheet up to rear (top) gutter.

Remove protective plastic from underside of sheet and fit into position on structure.

Sheets should be installed hard up against the top gutter, except the bottom (water receiving) gutter, where roofing sheets should project a minimum of 50mm into the gutter.

The wet gutter end of sheet needs to be turned down turn, so water drains correctly into the gutter. The opposite end of the sheet needs turning up. This is called weathering the sheets. Be careful not to tear the sheets.

Lay first sheet in position and fix off. Grasp the next sheet with 2 gloved hands and position sheet over top of preceding sheet. Using the heel of your hands, perform a rolling motion away from you at the same time applying pressure downwards as per diagram. (Figure 8)

Laying sheets to the string-line, proceed by placing next sheet in position. Front of sheet must be in line with the preceding sheet.

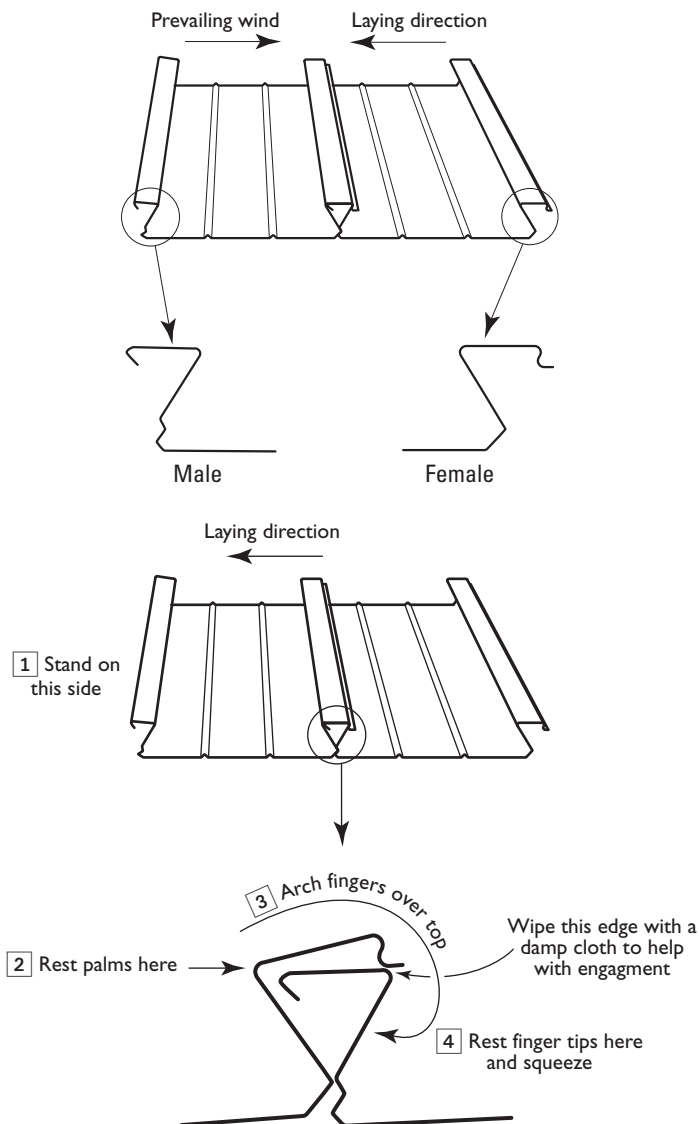


Figure 8 FLATDEK installation

12. Fitting Flatdek light panels

A light panel must be fitted at least 2 steel sheets in from any side and must have 2 steel sheets separating them.

Unlike the steel panels, both sides of a light panel fits over the male and female sides.

Working from a projection side, fit a minimum of 2 steel panels first and fix off.

Lay the light panel in position. Do not fix off. Next to that, place a steel sheet in under the light panel

The light panel should be sitting over the top of 2 steel sheets. Once position is correct, fix off steel sheet first and then light panel as shown below. (Figure 9)

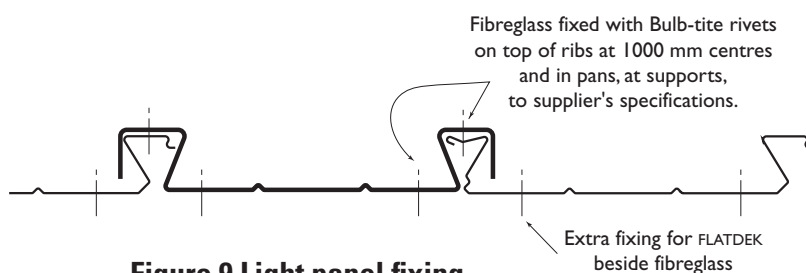
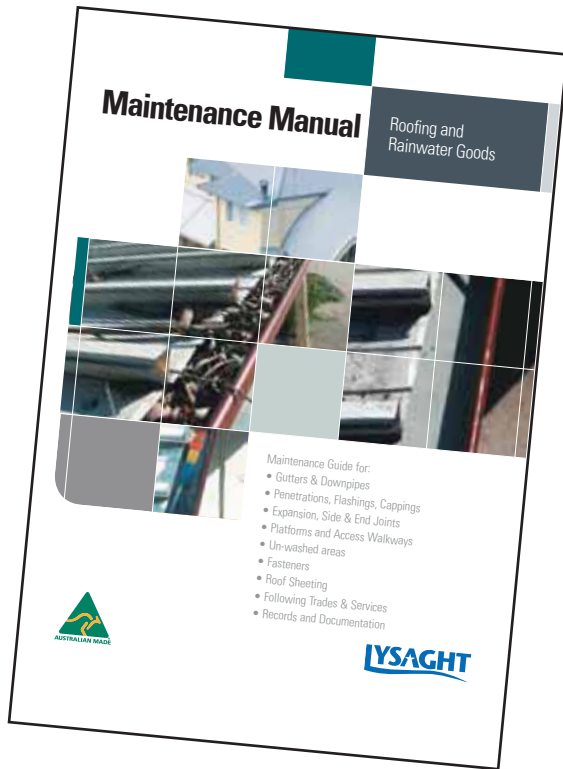


Figure 9 Light panel fixing



13. Clean up instructions

On completion remove all foreign objects from all the surfaces. e.g. Swarf (drilling debris) packaging, rubber, etc.

Attention should be made to the gutters, with all foreign material hosed completely out of all gutters. This is generally done using a hose and broom.

Fit 'No foot traffic' safety sign to two prominent positions on the inside of the beams on diagonally opposite corners. (Figure 10)

Please download the maintenance guide from: www.lysaght.com

Congratulations! Your new structure is now ready to use.



Figure 10 Safety sign



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