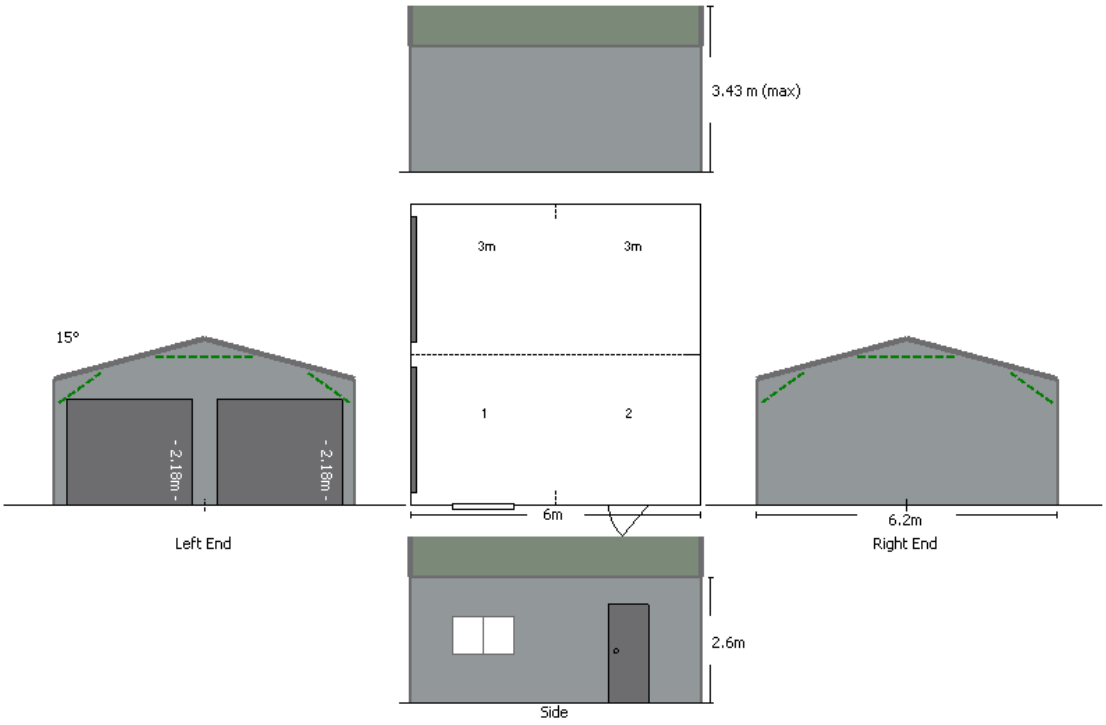
STEEL BUILDING RECOMMENDED INSTRUCTION MANUAL

Tilt Up Method



Project by:

Dinky-Di-Sheds

1800 785 224

For:

Dinky Di Sheds Shed Instruction Manual

At:

www.dinkydisheds.com.au

Australia , **Job**

Number:

Shed Instruction Manual

2024**.**

Table of Contents

1 Disclaimer

Important Disclaimer on this Instruction Manual

a. This document is to be used and read in conjunction with the plans, drawings and specifications generated by MultiBuild program for this specific job.
b. Date of Issue – Friday, 16 August 2024
c. Conditions of Use:
   By using this guide, you acknowledge and agree that your use is subject to the terms and conditions in this guide. It is your responsibility to ensure that the design you use, the products you have purchased, your site and structural limitations, your building and construction capabilities are appropriate for your needs.
d. Use of Recommended Genuine Materials:
   Structure in this manual should only be constructed using the recommended STRAMIT products or approved third party components. Any warranty can only apply to you if you use the recommended genuine STRAMIT products or approved third party products and Method of Construction recommended in this Manual.
e. Check of Delivery:
   It is important that all materials delivered to site have been checked against the Bill of Materials (BOM) before starting on the project to ensure all components have arrived, are of good quality and ready for installation.
f. Limitation of Liability
   The information contained in this manual is as far as possible accurate at the date of publication, however, before application in a particular situation, FBHS (AUST) Pty Ltd recommends that you obtain qualified expert advice confirming the suitability of product(s) and information in question for the application proposed as you accept the responsibility and risks. Whilst accepting its legal obligations, be aware however that to the extent permitted by law, FBHS (AUST) Pty Ltd disclaims all liability (including liability for negligence) from all loss and any damage, including damage to goodwill and any loss due to delay resulting directly or indirectly from the use of the information provided in this guide.

2 General Notes to be read before using this Manual

Governing Code: National Construction Code Series (Building Code of Australia)
Loading to AS1170 – Parts 0, 1, 2 and 3

2.1 Things to do before you commence construction

a. It is recommended to obtain professional advice to ensure your needs are adequately met.
b. Check with your local government of any approval or restriction requirements. It is your responsibility to ensure that all approvals required are obtained.

2.2 Safety Advice – Important

DISCLAIMER: This is a general safety advice. Refer to relevant state workplace authority website www.safeworkaustralia.gov.au for advice on specific items.

NOTE: Do not rely on this guide as exhaustive of all hazards that may exist on a construction site.

Construction hazards must be assessed for risk and controls put in place to reduce the risk identified before commencing the work. This guide is intended to provide an outline of some of the possible risks in erecting a shed or the like but it is not an exhaustive list.

POSSIBLE RISKS:

1. **Working at heights**
    a. Try to complete as much of the construction work as possible on the ground
    b. Where a person must work at height, appropriate fall prevention devices e.g. temporary work platforms, scaffolds or guard rails are possible controls you may be able to put in place
    c. If the controls at (b) are not practical then a safety harness or safety net may need to be considered
    d. Any scaffolding, temporary structures or planks should be secured
    e. Any ladder used is fit and appropriate for the task and correctly set up
    f. Appropriate non-slip footwear is worn
    g. Appropriate head protection (hard hat with chin strap) is worn

2. **Personal protective equipment.** Anyone undertaking construction work should wear appropriate:
    a. Eye protection (safety glasses)
    b. Hearing protection (ear plugs, ear muffs)
    c. Hand protection (gloves)
    d. Foot protection (safety shoes / boots)
    e. Head protection (hard hat)
    f. High visibility clothing
    g. Sunscreen

3. **Appropriate tools for the task.** Anyone using tools while undertaking construction should be properly trained in the operation of the tools required.

4. **Manual handling.** These are some basic principles to be observed prior to carrying out a manual handling operation
    a. Ensure that the person lifting the object is aware of its weight and is capable of lifting the object
    b. Make sure the route is clear of obstructions
    c. Make sure there is somewhere to put the load down wherever it is to be moved to
    d. Stand as close to the load as possible and spread your feet to shoulder width
    e. Bend your knees and try to keep the back's natural, upright posture
    f. Grasp the load firmly as close to the body as you can
    g. Use the legs to lift the load in a smooth motion as this offers more leverage reducing the strain on your back
    h. Carry the load close to the body with the elbows tucked into the body
    i. Avoid twisting the body as much as possible by turning your feet to position yourself with the load
    j. Heavy or awkward loads should be moved using a mechanical aid

5. **Noise.** While undertaking construction work, consideration should be given to:
    a. Isolating noisy work and restricting access to noisy areas
    b. Organising so that the time spent in noisy areas is limited

c. Using tools with lower noise emissions
d. Use of earplugs or earmuffs

6. **Working Space.** Due to the size of structures and the component parts, consideration should be given to the need for sufficient working space while undertaking construction.

7. **Electricity / Power Tools.** In each state or territory, there are specific requirements for management of electrical risks. The information below is an overview of the requirements for electricity safety on residential construction sites.
   a. Flexible (Extension) Cords
      i. Cords must be used as per the manufacturer's instructions
      ii. Cords should be located and used in a manner that protects them from damage
   b. Residual Current Device (RCD's)
      i. RCD's should be used "in line" with a switchboard
      ii. If a portable RCD is used, it is recommended that the RCD be connected directly to the switchboard depending on the manufacturer's code rating
      iii. Portable RCD's should be tested daily before use and then every three months
   c. Testing and Tagging. Equipment shall be tested and tagged
      i. When purchased and prior to use (supplier responsible for initial testing)
      ii. Before a return to use after repair
      iii. Testing and tagging should be done every three months for portable electrical equipment
   d. Switchboards
      i. Must be able to withstand possible damage
      ii. Be enclosed and have no exposed live parts
      iii. Be connected to incoming electrical supply by direct method
      iv. Must be stable when freestanding

8. **Light.** The construction of a shed or the like should only be undertaken with appropriate lighting. Construction should commence during the day or in an area with sufficient lighting.

9. **Slips / Trips.**
   a. All access routes are kept clear of materials and debris
   b. All leads kept clear of ground or covered
   c. All surfaces used for access kept dry in a good condition

10. **Engaging a Contractor in Constructing a Shed.** The contractor undertaking the construction of a shed for the customer shall have appropriate systems in place to meet the health and safety obligations set out in state and territory legislation.

Check with your local workplace health and safety authority for measures required to be put in place prior to and during construction. It is the responsibility of the builder, erector and or installer to ensure all safety work practices are in place. The safety of the whole site has to be maintained at all times. Due consideration has to be given to site safety in regard to locations of bracing and pegs.

2.3 Maintenance Guide

Refer to Stramit website for maintenance guide and requirements. Consult the guide for maintenance, handling and other technical information you may require.

2.4 Descriptions of Products

All specifications, drawings, data and dimensions in this manual are approximations only. Refer to the Engineering Plans and Specifications with this manual.

3 Glossary of Terms

Apex Brace – A C-Purlin member that attaches to each side of the rafter to act as brace.

Apex Bracket (pressed) – A pressed bracket that joins 2 rafters to form the roof apex.

Barge Capping - It is a flashing that attaches to the gable end wall cladding over the roof sheets .

Bolted Frame – A portal frame with structural frame bolt type fasteners.

Bolts – A frame fastener type for bolted frame application

C- Eave Purlin – A C-Eave Purlin to support top of wall sheeting and end of roof sheeting on the lower side of Gable Roof type structure and on both lower and upper sides of Monopitch type structure.

Column – A C-Purlin vertical member to support C-Purlin rafter.

Corner Flashing – A flashing type to cover the gap between two intersecting sheeting or structural members for weather protection.

Eave Purlin Bracket – It is a folded U-shaped bracket that attaches to lips of C-Purlin column to support the C-Eave Purlin.

End Wall Girt – A Z-Purlin or tophat that attaches to the flange of a C-Purlin frame column with an endwall girt bracket. Endwall girt is flushed to the outside face of the endwall column.

End Wall Girt Bracket – An angle bracket that attaches to the flange of a C-Purlin frame column and to an endwall girt.

End Wall Mullion – A C-Purlin column rotated 90 degree and is offset by the width of an endwall girt.

Fly Brace – A strap brace that wraps around a C-Purlin column or rafter and attaches to a wall girt.

General Purpose Bracket – A pre-punched angle bracket to attach to various applications.

Gutter – A rollformed rainwater product that attaches to the lower end of the roof for water drainage.

Haunch Bracket (Pressed) – A pressed bracket that attaches to top of a C-Purlin column and to base of a C-Purlin rafter.

Hold Down Bracket – A folded U-shaped bracket that attaches to the base of a C-Purlin column flanges on both sides and embedded to concrete.

Knee Brace – A C-Purlin member that attaches to a C-Purlin column and a C-Purlin rafter to act as a brace.

Mullion Fixing Angle – It is an angle bracket that has multiple uses. It can be for an attachment of the end mullion to the rafter or attachment of a leanto rafter to the flange of a main column.

Personal Access Door Jamb – A folded bracket that attaches to either the next wall girt above the door opening or the C-Purlin eave purlin.

Portal Frame – A frame which consists of a C-Purlin column and a C-Purlin rafter attached with haunch and apex bracket to form a portal frame.

Rafter – A C-Purlin member that attaches to the top of a C-Purlin column with a flat or pressed haunch bracket to support the roof purlins.

Ridge Capping – A flashing to cover the gap where two roof sheetings meet at ridge point.

Roller Door Column (end wall) – It is a C-Purlin member positioned as the frame column orientation.

Roller Door Header – It is a C-Purlin member above the roller door opening that attaches to the inner web of the header and to the flange of the roller door column with angle bracket.

Roof Purlin – A Z-Purlin or a tophat member that directly attaches to the top flange of a C-Purlin rafter with tek screws.

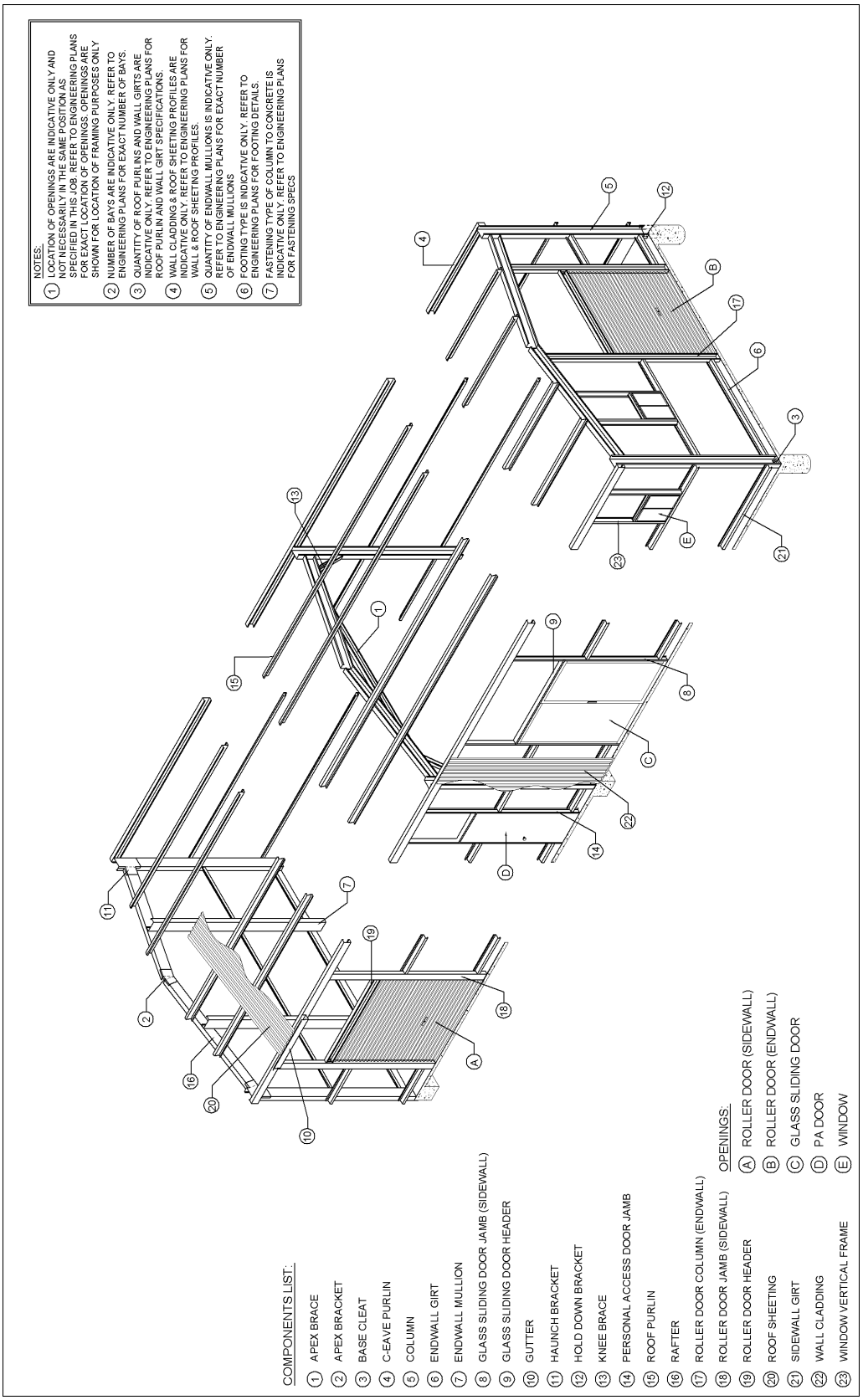
Roof Sheeting – It is a metal sheeting profile to cover the roof of the building and attaches to the roof purlins.

Sidewall Girt – A Z-Purlin or tophat that attaches to the flange of a C-Purlin frame column.

Wall Cladding – A metal sheeting profile to cover the walls of the building and attaches to the wall girts.

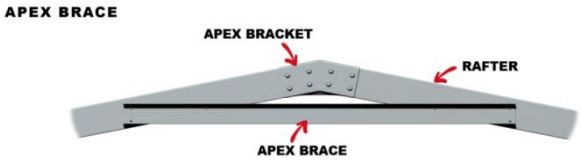
Window Vertical Frame – A member which is the same as the wall girt material to support a window opening.

4 Diagram of Component Assembly



5 Components

Apex Brace
A C-Purlin member that attaches to each side of the rafter to act as brace.



Apex Bracket (pressed)
A pressed bracket that wraps around the outer face webs and flanges of a rafter which joins the two rafters to form the roof apex.

Barge Capping
A flashing that attaches to the gable end wall cladding over the roof sheets to cover the gap between the top of the endwall cladding and the roof sheeting to a neat finish.

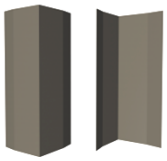
Bolted Frame
A portal frame with structural frame bolt fasteners type.

Bolts
A frame fastener type for bolted frame application.

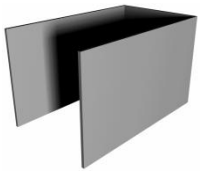
C- Eave Purlin
A C-Eave Purlin to support top of wall sheeting and lower end of roof sheeting of a Gable Roof type structure and on both lower and upper sides of a Monopitch type structure.

Column
A C-Purlin vertical member to support C-Purlin rafter.

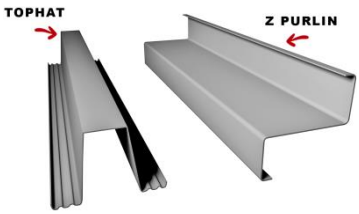
Corner Flashing
A flashing type to cover the gap between two intersecting sheeting or structural members for weather protection.



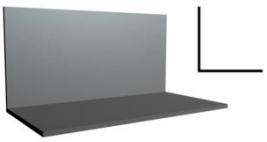
Eave Purlin Bracket
A folded U-shaped bracket that attaches to inside web of a C-Purlin Eave Purlin to lip and outer web of C-Purlin column.



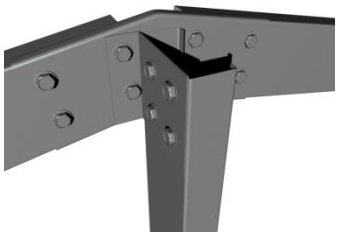
End Wall Girt
A Z-Purlin or tophat that attaches to the flange of a column with an endwall girt bracket. Endwall girt is flushed to the outside face of the endwall column.



End Wall Girt Bracket
An angle bracket that attaches to the flange of a column to either a Z-Purlin or to a tophat endwall girt.

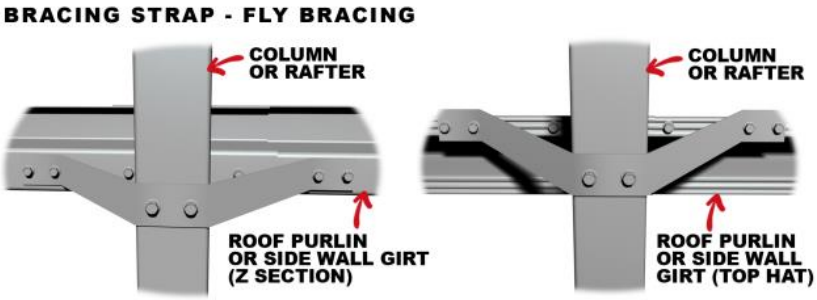


End Wall Mullion
A column rotated 90 degree and is offset by the width of an endwall girt.



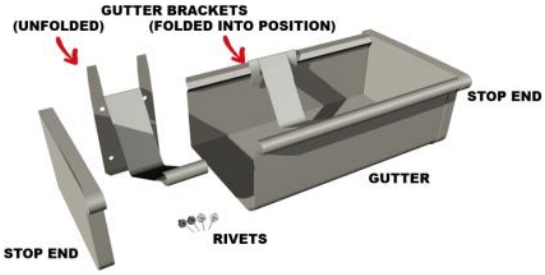
Fly Brace

A metal strap brace to attach to the outer web of column and or rafter to either a tophat or Z –Purlin girt and or purlin.



Gutter

A rollformed rainwater product that attaches at the lower end of the roof for water drainage.



Haunch Bracket (Pressed)

A pressed bracket that attaches to top of a column and to base of a rafter. Haunch bracket is attached to the outside web face of both column and rafter.

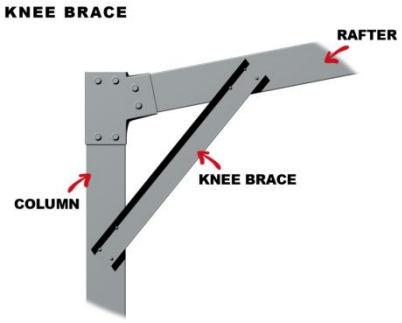
Hold Down Bracket

A folded U-shaped bracket that attaches to the base of column flanges on both sides and embedded to concrete.

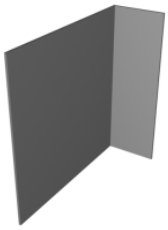
SINGLE HOLD DOWN BRACKET DOUBLE HOLD DOWN BRACKET

Knee Brace

A C-Purlin member that attaches to a column and a rafter to act as a brace.

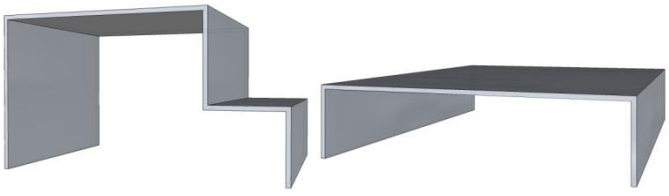


Mullion Fixing Angle – It is an angle bracket that has multiple uses. It can be for an attachment of the end mullion to the rafter or attachment of a leanto rafter to the flange of a main column.



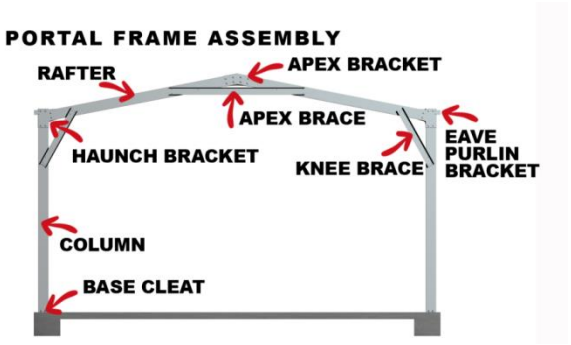
Personal Access Door Jamb

A folded bracket that attaches to either the next wall girt above the door or the C- Eave Purlin. The bracket to be notched out and the flanges attach to sides of either the girt or eave purlin. It comes either with or without a rebate.



Portal Frame

A frame which consists of a column and a rafter assembled with haunch and apex brackets to form a portal frame. Knee and Apex braces are optional.



Rafter

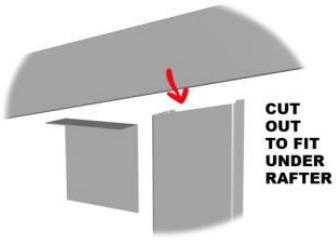
A C-Purlin member to support the roof purlin fixed to the top of a column with a haunch bracket and fixed to the other rafter with an apex bracket.

Ridge Capping

A flashing to cover the gap where two roof sheetings meet at ridge point.

Roller Door Column (end wall)

A C-Purlin member that acts as a roller door jamb and is orientated as the frame column.

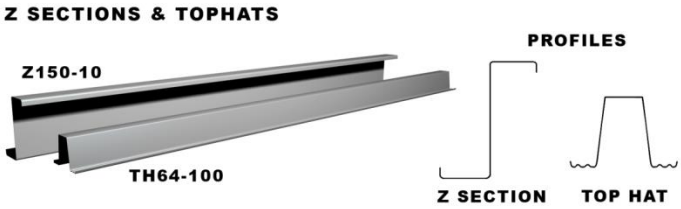


Roller Door Header

A C-Purlin member above the roller door opening that attaches to the flange of the roller door column to inside web of the header with an angle bracket.

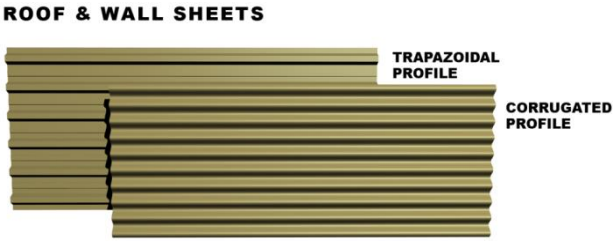
Roof Purlin

A Z-Purlin member or a tophat that directly attaches to the top flange of a C-Purlin rafter with tek screws.



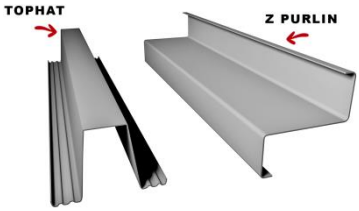
Roof Sheeting

A metal sheeting profile to cover the roof of the building and attaches to the roof purlins.



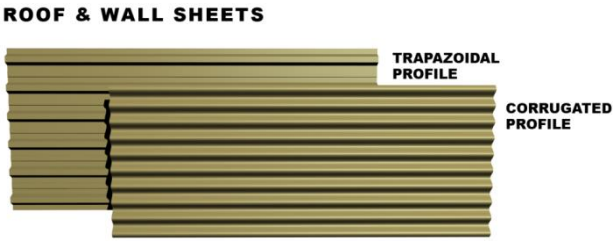
Sidewall Girt

A Z-Purlin or tophat that directly attaches to the flange of a C-Purlin frame column.



Wall Cladding

A metal sheeting profile to cover the walls of the building and attaches to the wall girts.



Window Vertical Frame
A member which is the same as the wall girt material, flanges notched out and flanges attach to sides of the next wall girt below and above the window opening. In the absence of a wall girt above the opening, it attaches to the sides of a C-Purlin eave purlin.

6 Guide in using the Instruction Manual

You must read these instructions carefully before starting on the project.

Recommended Tools

a) Ladder
b) Plank
c) Saw Horses
d) Angle Grinder
e) Electric Lead
f) Spirit Level
g) Drill and Drill Bits for concrete/masonry and steel
h) Pop Rivet Gun
i) Safety Glasses
j) Gloves
k) Assortment of Hand Tools such as impact driver/tek gun (electrical), power box, nibbler, clamps, hammer and all other tools you require
l) Socket Set

Check against components delivered and the Bill of Materials.

It is important to check the delivered components against the Bill of Materials. If there is discrepancy with what is received and the BOM, please contact the distributor where you purchased immediately prior to the commencement of the project.

Site Preparation

Prepare the work area for the construction. Clear the work area of obstacles and debris to be a safe place to work in.

7 Start of Project

The information in this guide is suitable only for: ***'www.dinkydisheds.com.au Australia, 4000'*** with the following:

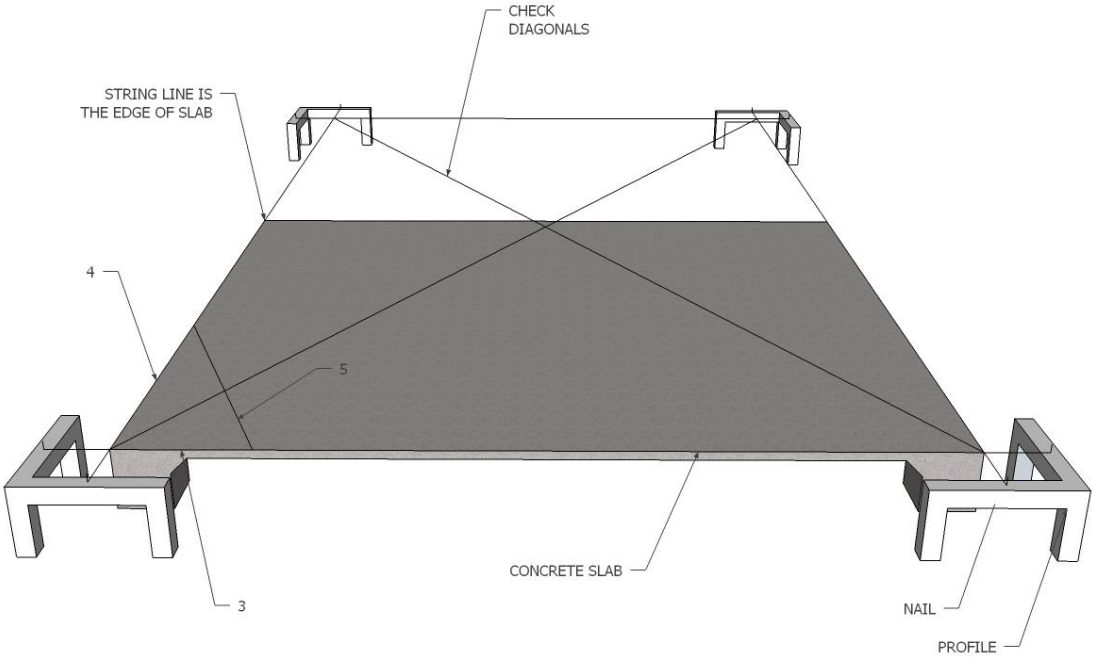
Project Design Criteria	
Wind Region	A
Topography	1
Shielding Factor	1
Terrain Category	2.5
Importance Level	2

Gable Roof structure for a 6.2m span x 6m long x 2.6m high enclosed garage with 1 personal access door on sidewall, 1 window on sidewall, 2 roller doors on endwall.

IT IS IMPERATIVE TO REFER TO THE ENGINEERING PLANS SUPPLIED WITH THIS MANUAL FOR SPECIFICATIONS AND DETAILS TO ALL THE CHAPTERS INCLUDED IN THIS MANUAL.

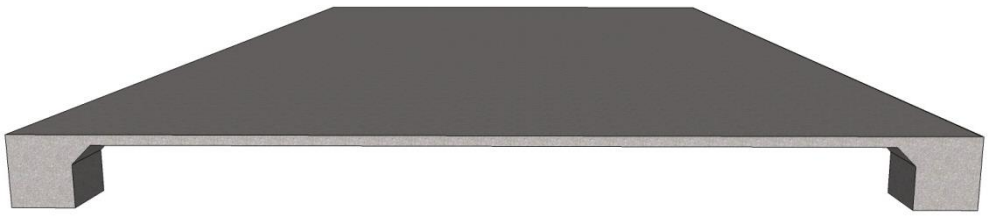
8 Profile

A profile is a set-out of a concrete slab. Build the profile on each corner of the building allowing for enough space to set out the corners of the concrete slab. Nail strings on 4 sides for set-out of the edges of the concrete slab. The diagonal measurements of the strings from each corner must be equal. Ensure that the strings are square by measuring 300mm on the span side and 400mm on the length side. The measurement of the end points of these 2 measurements should be 500mm. The image shows 3, 4 and 5 to represent the measurements correspondingly. The 4 string lines are equivalent to the slab edges. The intersection of 2 strings is the corner of the slab. The concrete slab dimensions should be the exact dimensions of the building. The diagonal measurement of the slab is equal to 8.628 meters for the Main Building.



9 Foundation

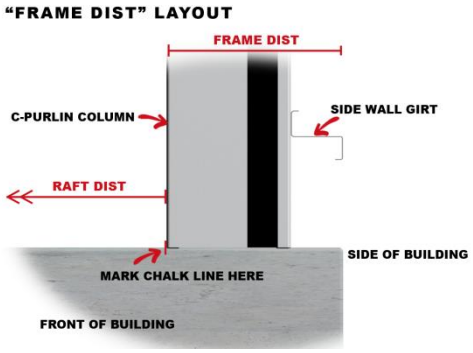
The concrete slab dimensions should be the exact dimensions of the building. Building dimensions are taken from outside to outside of the wall girts to allow the wall cladding to go past the slab by 25mm. It is very important that the 2 diagonal measurements of the concrete slab be equal, square and level. The concrete slab will be supported by either a block pad or bored or strip footing as required. If slab is present, footings are not centered under the columns.

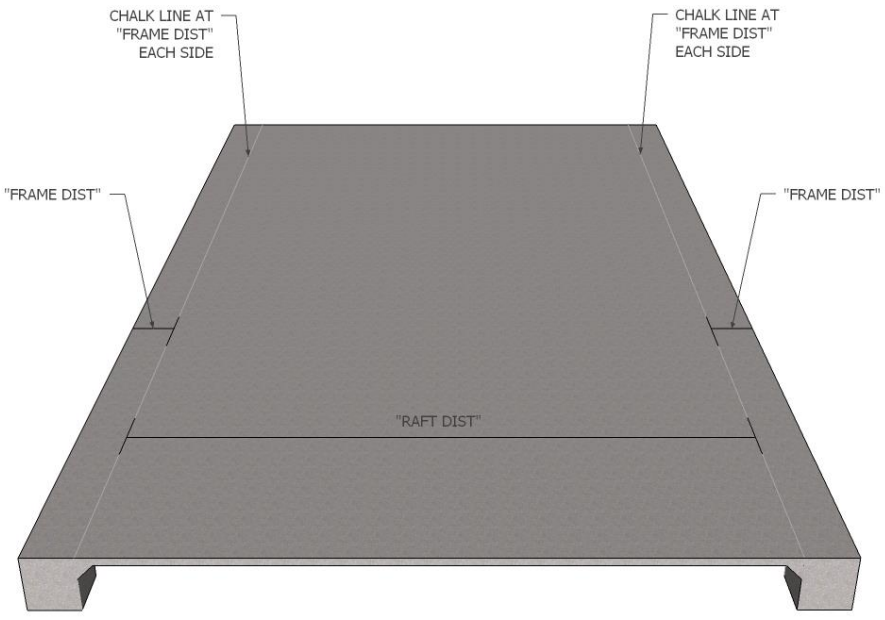


10 Marking Out the Building

Measure the width and the length of the slab and ensure that it is equivalent to the size of the building as per Engineering Plans. Measure the 2 diagonals and ensure that the dimensions are equal, level and square.

Mark out (chalk line) the inside face of the C-Purlin column from the edge of the slab along one side of the length of the building. This distance is equal to the web size of the C-Purlin column and the width of the girt and is referred to as “Frame Dist”. Repeat the procedure to the other side along the length of the building.





The distance between the inside face of the C-Purlin columns is referred to as “Raft Dist”. This distance is equal to the span of the building minus 2 x ”Frame Dist”. The “Raft Dist” is equal to the measurement of an assembled rafter on the slab from RAFT POINT 1 to RAFT POINT 2. This will be discussed more in the “Fitting of Rafters with Apex Bracket” Chapter.

NOTE: For the set-out of the C-Purlin column and the fastening type to the concrete slab, refer to the Bolt Layout Plan or Hold Down Bracket Layout Plan (as required) on the Engineering plans.

The overall length of the building is from outside face of the C-Purlin column on each endwall.

11 Fitting of Girts and Purlins

Lay out sidewall girts and purlins on the slab. Join and lap two (2) girts with tek screws to suit the length of the building as specified on the Engineering Plans. For ease of handling, it is recommended that joining should be no more than 2 multiples at a time. The number of tek screws per connection to the flange of the C-Purlin column or rafter and per overlap varies. Refer to the Engineering Plans for details and specifications. Repeat the same procedure for the purlins.

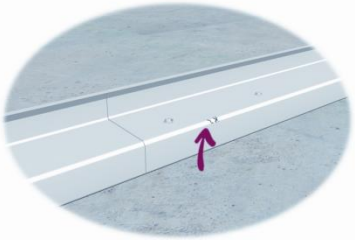
NOTE: The overlap widths of girts and purlins may not necessarily be the same so it is important to refer to the Engineering Plans.

NOTE: The number of tek screws may not necessarily be the same for girts and purlins so it is important to refer to the Engineering Plans.

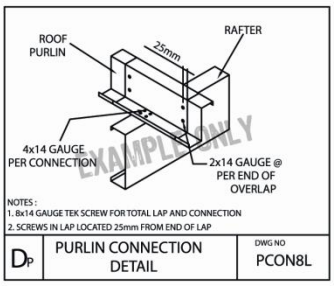
Mark on the girts with a permanent marker the Intermediate Portal Frame positions as per Engineering Plans. Repeat the same procedure for the purlins. Move aside for later use.

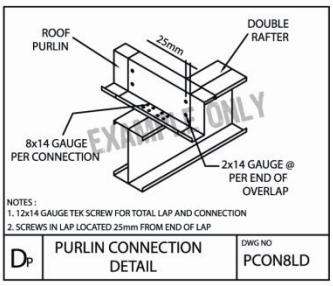
SIDE WALL GIRTS & ROOF PURLINS

OVERLAP CONNECTION DETAIL



MEASURE & MARK POSITION OF INTERMEDIATE PORTAL FRAMES





12 Fitting of Rafters with Apex Bracket

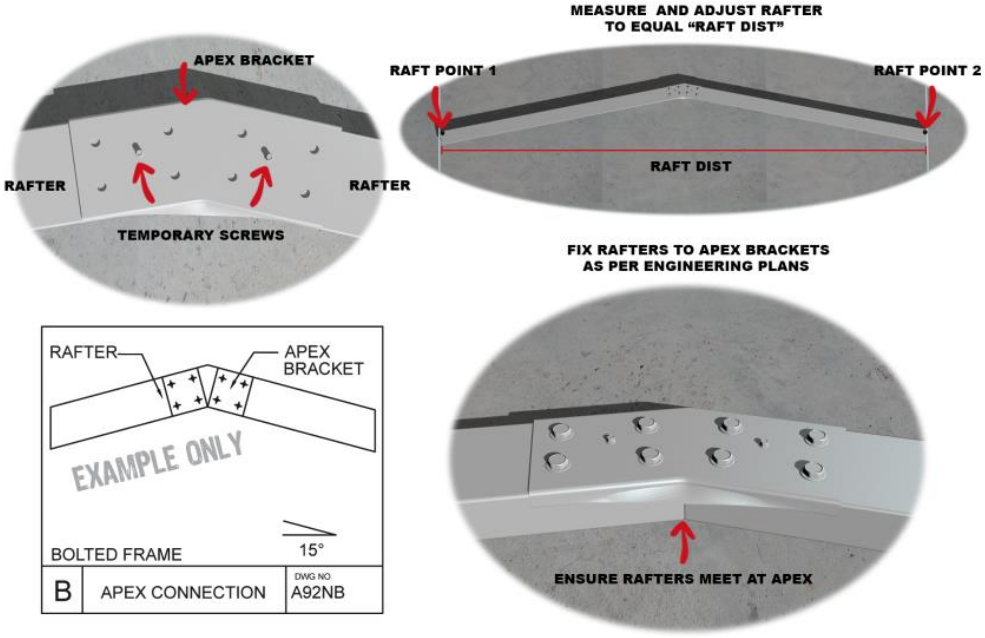
Layout rafters and apex brackets on the slab. Split rafters equally on 2 sides and stand on flanges. Ensure that the correct end of the rafter is at the top. This can be achieved by measuring the punching of the apex bracket against the punching on the rafter. Start the rafter assembly to the first set of rafters and apex bracket. Lay the first 2 rafters flat on the slab, web facing up at the approximate roof pitch. Ensure that the rafters meet at the lower apex. Attach the apex bracket to the top end of the rafter forming an apex. Keep the apex bracket temporarily in place with 2 frame tek screws. Measure RAFT POINT 1 and RAFT POINT 2 and adjust until measurement equals RAFT DIST. Bolt the apex bracket securely into position. Repeat procedure to the rest of the rafters. Stand rafter assembly side by side, measure and mark on the rafter the position of purlins based on the spacing specified on the engineering plans. Move aside for later use.

NOTE: Due to the limitations of the standard haunch brackets being used, the “RAFT-DIST” criteria is NOT applicable to all roof pitches and rafter frame size. Refer to table below.

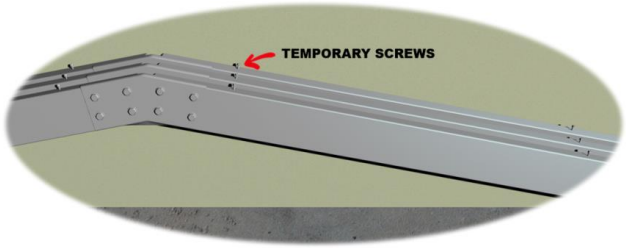
RAFTER SIZE	ROOF PITCH					
	5°	11°	15°	22°	30°	45°
	"RAFT-DIST" CRITERIA					
C100	A	A	A	A	N	N
C150	A	A	A	A	N	N
C200	A	A	A	A	N	N
C250	A	A	A	A	N	N
C300	A	A	A	A	N	N
C400	A	A	A	N	N	N

NOTES:
A - APPLICABLE
N - NOT APPLICABLE

FITTING OF RAFTERS WITH APEX BRACKET



MARKING ROOF PURLIN POSITION ON RAFTER ASSEMBLY



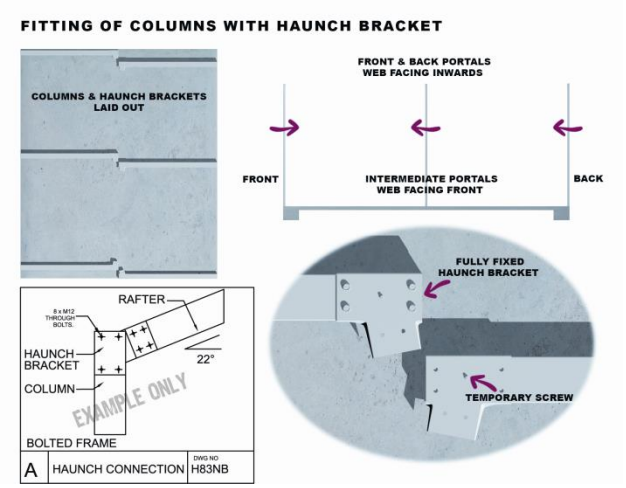
TIP: The outer web of the Front and Rear portal frames should face towards the centre of the building for aesthetics and attachment of Endwall Mullion purposes.

TIP: For intermediate frame with double rafter application, 2 apex brackets are to be used and attached to the webs of the double rafters with fastening type as per Engineering Plans.

13 Fitting of Columns with Haunch Bracket

Layout Columns and Haunch Brackets on the slab approximately at bay spacing distance. Ensure that the correct end of the column is at the top. This can be achieved by matching the punching of the haunch bracket against the punching on the column.

Lay the Column flat on the slab, web face up. Attach the Haunch Bracket to the top end of the column, web face up. Keep the haunch bracket temporarily in place with 2 frame tek screws. Repeat procedure to the rest of the columns. Stand the column on the flange and permanently bolt the haunch bracket to the column.



TIP: The outer web of the Front and Rear portal frames should face towards the centre of the building for aesthetics and attachment of roller door columns purposes.

TIP: Layout the haunch brackets web face up to determine the Left and Right Haunch Bracket. Where the column attachment is on the left, it is the Left Haunch Bracket and where the column attachment is on the right, it is the Right Haunch Bracket.

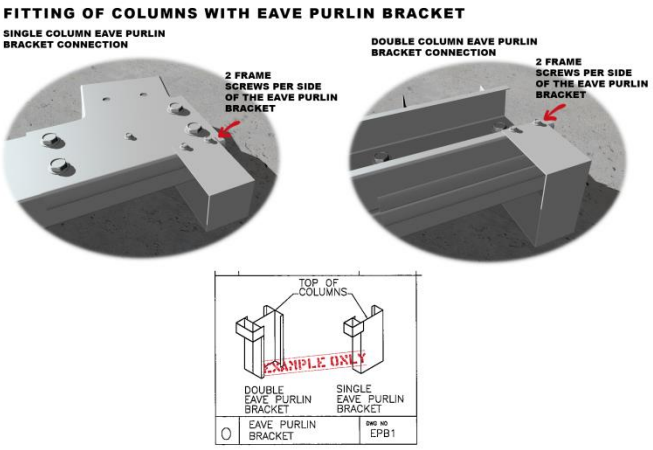
TIP: For intermediate frame with double column application, a double haunch bracket is to be used and attached to the webs between the double column with fastening type as per Engineering Plans.

TIP: If building designed with mezzanine floor has double columns on the main building frame, it is recommended to fit the single mezzanine floor bracket in between the columns whilst the haunch bracket is being fitted to the double columns with fastening type as per Engineering Plans. Ensure

that the mezzanine bearer bracket is fixed to the required height on the column.

14 Fitting of Columns with Eave Purlin Bracket

Stand the C-Purlin column on the flange side and attach the Eave Purlin Bracket on the lip and web face of the C-Purlin column with frame tek screws each side on a single frame application. On a double frame application, the eave purlin bracket attaches to the lips of the columns. Refer to Engineering Plans on the height specifications of the Eave Purlin Bracket. Repeat this procedure to the other columns.

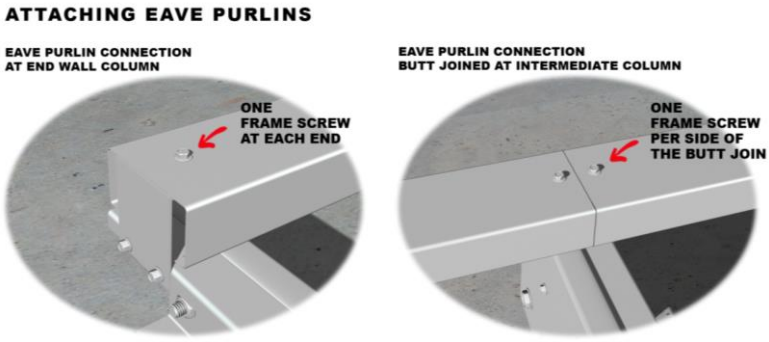


NOTE: The Eave Purlin Bracket only applies to a C-Eave Purlin. If Tophat Eave Purlin is selected, Eave Purlin bracket is not required.

TIP: C-Eave Purlin are butt jointed when attached to Eave Purlin Bracket.

15 Fitting of C-Eave Purlin to Eave Purlin Bracket

Stand the C-Purlin column on the flange side with the eave purlin bracket facing up. Attach the C-Eave Purlin with one frame tek screw on each side of the C-Eave Purlin at intermediate frame. On end frame, attach the C-Eave Purlin to the eave purlin bracket with one frame tek screw. Refer to Engineering Plans on the height specifications and fastening type of the C-Eave Purlin. Repeat this procedure to the other C-Eave Purlins.



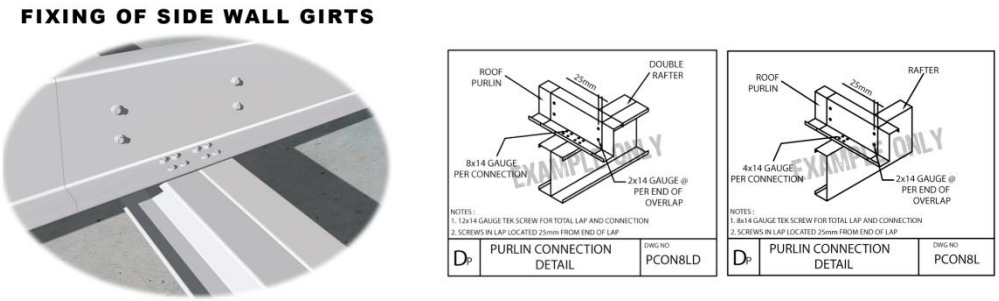
TIP: For C-Eave Purlin application, the C-Eave Purlins are butt jointed on the eave purlin bracket.

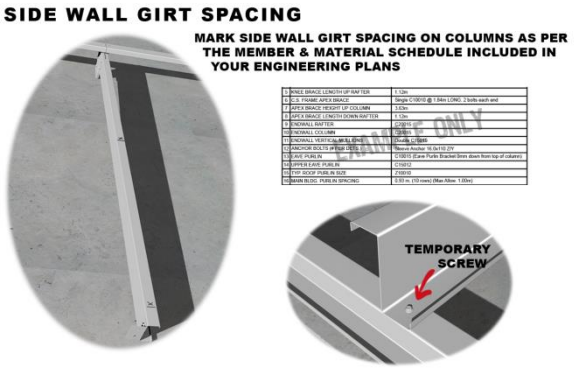
16 Sidewall Frame Assembly

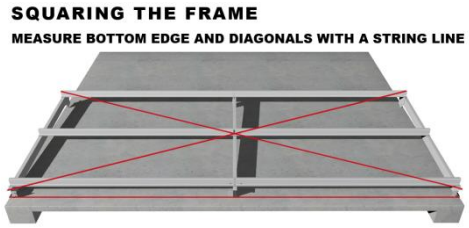
Following the attachment of C-Eave Purlin, stand the column on the flange side, C-Eave Purlin facing up, mark the spacing of sidewall girts on the column flange, spacing as per the engineering plans with the first girt being 250mm above the base of the column. Sidewall girts are flushed to outside face of the end columns which is equal to the length of the concrete slab. Allow 1 framing tek screw per attachment for temporary fixing. When the setting out of the sidewall girts is complete, string line the bottom of the columns to ensure that a straight line is achieved. The 2 diagonal measurements of the wall frame have to be equal. If the measurements are not equal, adjust the wall frame until the 2 measurements are the same. Once the squareness of the frame is achieved, complete fixing the sidewall girts.

NOTE: If wall strap brace or fly brace is required as per the Engineering Plans, fix into position prior to cladding of walls.

TIP: Do not install girts on bays where sidewall roller door is present to allow for the door opening. Refer to Sidewall Roller Door Chapter.

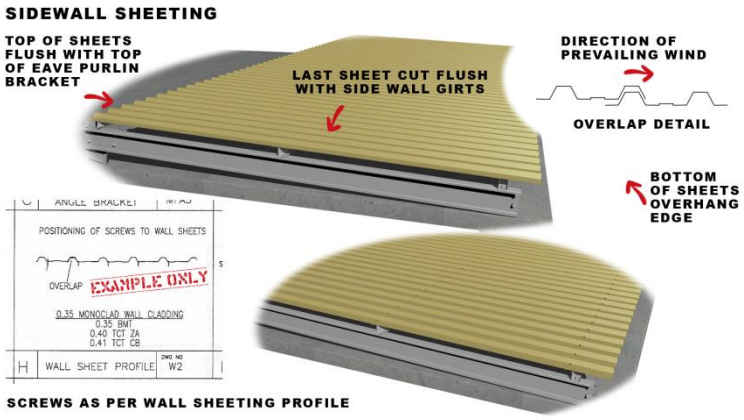






17 Sidewall Sheeting

Lay the sidewall sheeting and ensure that the female rib faces away from the prevailing weather. Ensure that the bottom of the wall sheet is approximately 25mm past the base of the column which would make the wall sheets go past the slab by 25mm after the wall frame is stood up to prevent water coming in the building. Fix the sidewall sheets to wall girts one at a time with fastening type and specifications as per the Engineering Plans. Use a straight edge chalk line to ensure screws are in a straight line. Each end sidewall sheet to flush to the outer face of the endwall column or the endwall girt.



CAUTION: It is imperative to sweep the edge of the metal with a soft hair brush to remove “swarf” whenever the sheets are cut. Any remaining swarf on the sheets after cutting will cause rusting and may void the warranty.

If there is an opening on the sidewall, install and fix all the full wall sheets first and leave out the sheets where the opening is to be positioned. Once the location of the opening is established, measure, cut and fix all the sheets below or above the opening whichever is applicable.

CAUTION: Do not fit an opening until all sides of the wall frame are sheeted and standing.

NOTE: If wall strap brace or fly brace is required as per the engineering plans, fix into position prior to cladding of walls.

18 Gutter

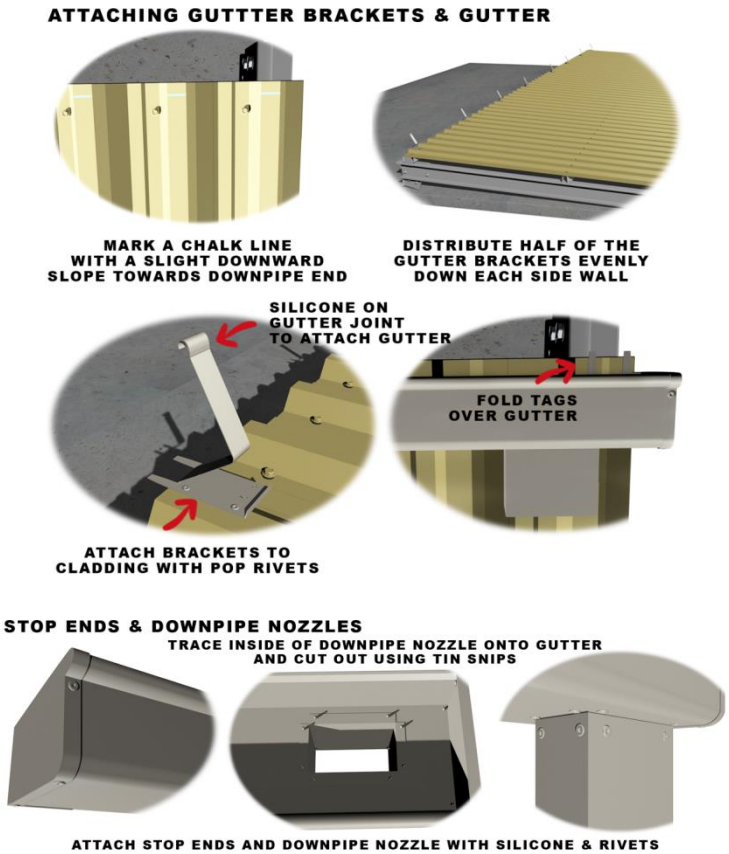
Depending on the length of the building, gutter can be fitted now or later when the walls are already standing.

Peel the protective plastic cover of the gutter. Fix the stop ends and rivet into position. Position the downpipe nozzle under the gutter and trace the inside of the nozzle with a permanent marker. Cut the holes in the gutter with tin snips, silicone, drill and rivet into position.

CAUTION: Use caution in handling cut steel as it is extremely sharp.

TIP : Gutter and gutter brackets may vary by area.

Position the gutter brackets spaced at 1.0meter maximum as a guide. Mark a chalk line from top of the wall sheets down to determine the height of the brackets, highest point of gutter bracket to line up with the top of wall sheeting. Attach the gutter brackets to the ribs of the wall sheets with pop rivets with a slight downward slope towards the downpipe. Apply silicone to joints of gutter prior to installation. Clip gutter into gutter brackets and ensure that the gutter overhang the gable end wall by the profile width of the sheets. Fold gutter bracket tags into the gutter to hold it into position.



19 Other Sidewall Frame Assembly

Repeat the process on “Sidewall Frame Assembly” Chapter through to “Gutter” Chapter for the other Sidewall Frame Assembly.

NOTE: On smaller buildings where space is limited on the slab, only one wall frame at a time can be assembled. In this situation, assemble and stand one sidewall, temporarily brace. Repeat the procedure to assemble and stand the opposite wall.

20 Standing The First Sidewall Frame Assembly

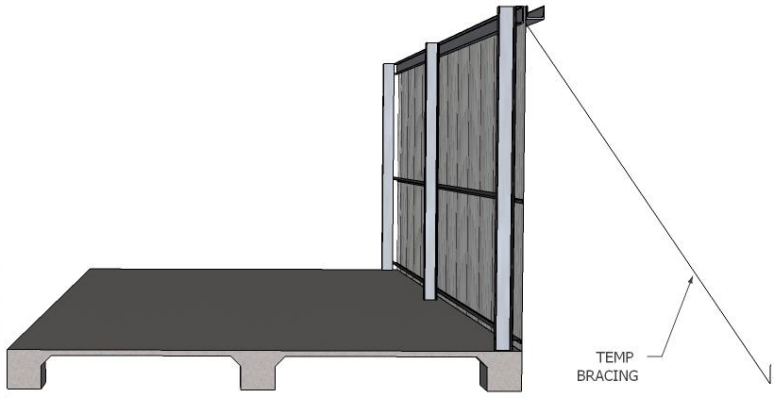
WARNING: DO NOT ATTEMPT TO STAND A WALL FRAME ASSEMBLY ON WINDY DAYS. CAUTION SHOULD BE OBSERVED AND SAFETY TO BE THE UTMOST PRIORITY WHEN STANDING PORTAL FRAME OR WALL FRAME ASSEMBLY.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO “GUIDE TO THE INSTALLATION OF TEMPORARY BRACING” ON THE ENGINEERING PLANS.

NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.

Secure with temporary bracing material into the ground with stakes or equivalent material then tie off onto the frame as per the “Guide to the Installation of Temporary Bracing” on the Engineering Plans. With the assistance of other installers, lift one sidewall frame assembly into position and ensure that the end columns are flush with the edge of the concrete slab. Position the inside face of the column flange to the chalk line previously marked on the concrete slab. Brace and prop both ends of the wall frame assembly with the appropriate temporary bracing material tied securely around stakes or equivalent driven into the ground.

PLACE COLUMNS FLUSH WITH CHALK LINE PREVIOUSLY MARKED

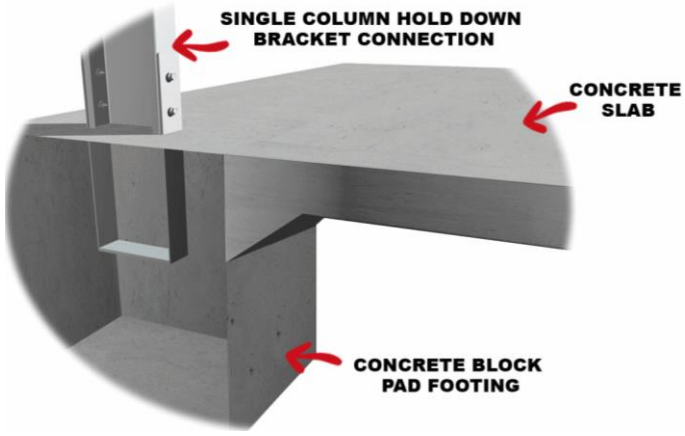


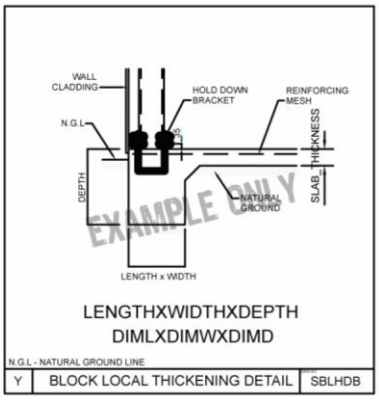
ONE WALL STANDING

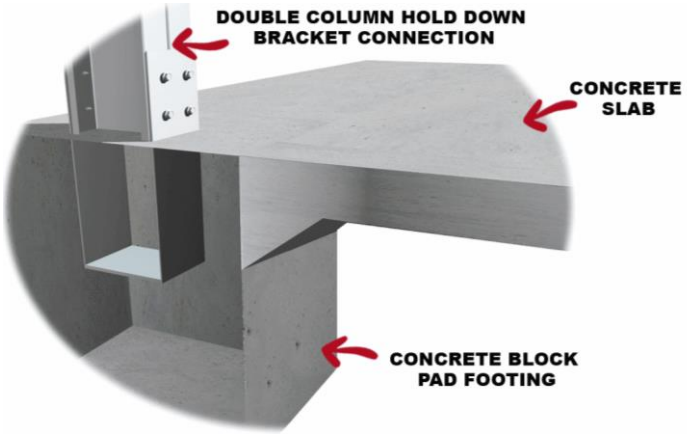
REFER TO 'GUIDE TO THE INSTALLATION OF TEMPORARY BRACING'

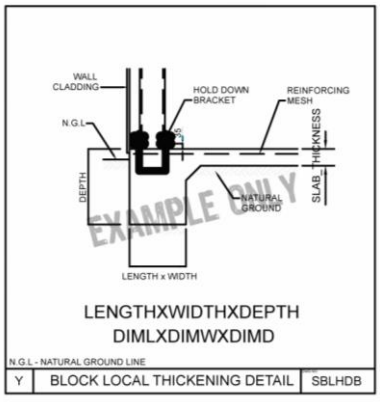
WHEN PROPPING THE EXTERIOR OF STANDING WALLS BE SURE TO USE SOFT CLOTH AS A BUFFER TO PREVENT MARKING OF GUTTER AND WALL SHEETS

TIP: When propping under gutter, it is recommended that a soft cloth or similar be tied around the ends of the props to avoid marking and scratches.





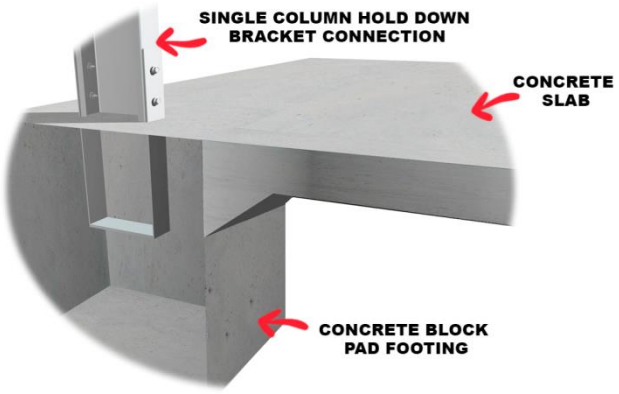


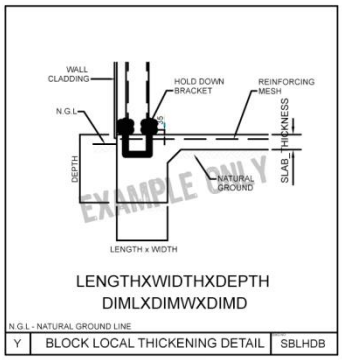


21 Fitting of Columns to Hold Down Bracket (HDB)

Stand the Column between the embedded Hold Down Bracket already set in concrete with the Fastening Type as per the Engineering Plans. Ensure that the punching on the column matches the punching on the Hold Down bracket. For double C-Purlin column application, a wider Hold Down Bracket is to be used. A 400mm deep Hold Down Bracket is to be used to the columns at corners of the building to be able to go down through to the slab and through to the concrete footing. Brace the Frame as per the "Guide to the Installation of Temporary Bracing".

End Wall Mullions and Roller Door Columns will remain to be fitted with Base Cleat. Attach Base Cleat bracket to the outer web face of a single End Wall Mullion and Roller Door Column. For double End Wall Mullion application, base cleat bracket is attached to the inner web face of each End Wall Mullion.





NOTE: It is recommended to offset the attachment of the base cleat bracket to the Roller Door Column to allow for the roller door tracks.

TIP: For Hold Down Bracket set out, select the "Bolt Layout" in the "optional extra sheet" when sending for plans.

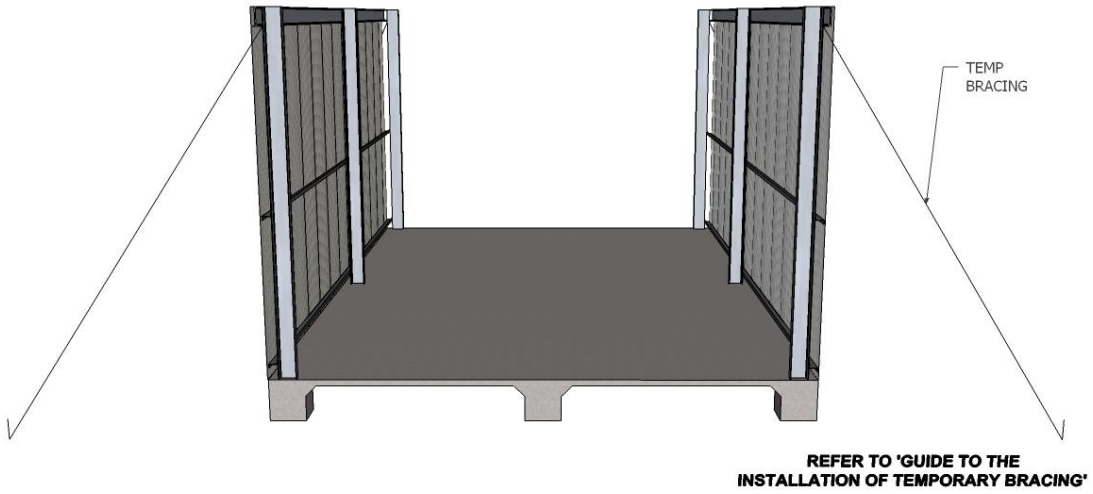
TIP: For Hold Down Bracket set-out, select the "Bolt Layout" in the "optional extra sheet" when sending for plans.

22 Standing The Second Sidewall Frame Assembly

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO "GUIDE TO THE INSTALLATION OF TEMPORARY BRACING" ON THE ENGINEERING PLANS.

NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.

Repeat the procedure in “Standing The First Sidewall Frame Assembly” Chapter .



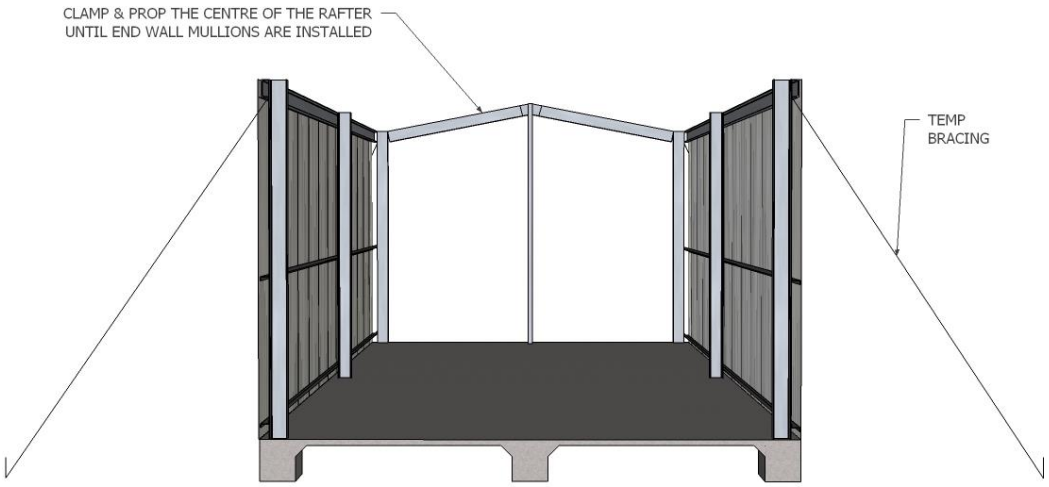
23 Installation of Endwall Rafter

Starting at the rear end of the building, carefully lift the Rafter Assembly to fit into the haunch bracket. Ensure that the web face of the rafter faces the inside of the building. Use quick release clamps to secure the rafters to the haunch brackets. The centre of the rafter assembly should be supported temporarily as per the “Guide to the Installation of Temporary Bracing” until the Endwall Mullions or Roller Door Columns are in place. If Endwall Mullions and Roller Door Columns are not required, the temporary bracing should be kept in place until all the roof purlins are in place or until it is safe to remove the temporary bracing. Use 2 frame screws per haunch bracket connection to hold portals in place. Check and ensure that the columns are plumb and adjust props as necessary. Complete the haunch bracket connection with the fastening type specified in the engineering plans. Ensure that bolts and screws are tightened to specifications.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO “GUIDE TO THE INSTALLATION OF TEMPORARY BRACING” ON THE ENGINEERING PLANS.

NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.

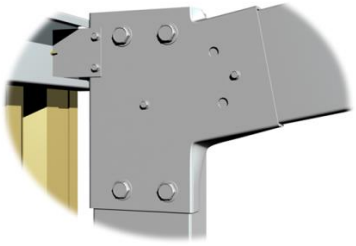
INSTALLATION OF ENDWALL RAFTER (A)



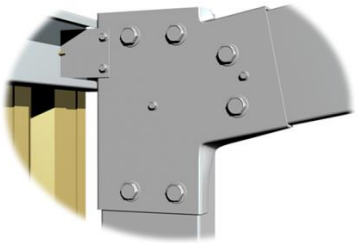
REFER TO 'GUIDE TO THE INSTALLATION OF TEMPORARY BRACING'

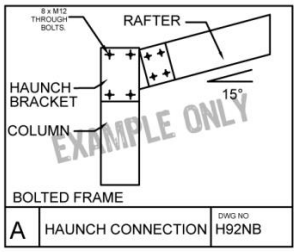
INSTALLATION OF ENDWALL RAFTER (B)

TEMPORARY SCREWS HOLD PORTALS IN LOCATION



FULLY FIXED HAUNCH BRACKET



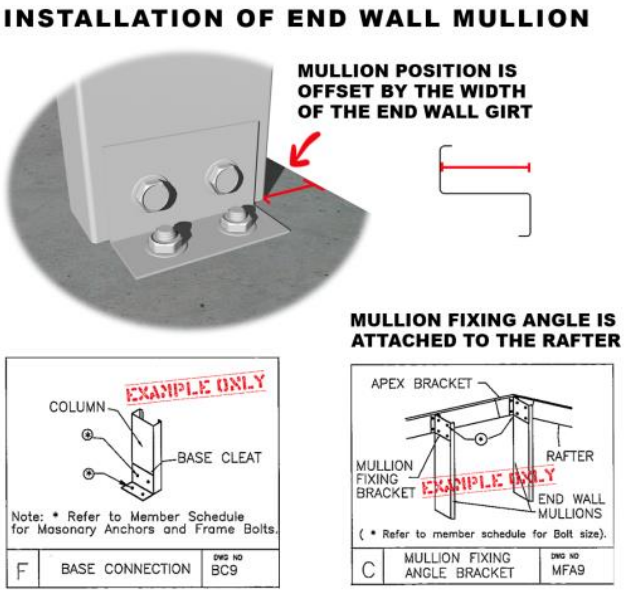


24 Installation of Endwall Mullion

Fix the base cleat to the outer web base of a single Endwall Mullion with Fastening Type as per Engineering Plans. For double Endwall Mullion application, fix the base cleat to the inner web base of each column. The Endwall Mullion is offset by the width of the end wall girt from the edge of the slab and is positioned perpendicular to the Frame Rafter. Attach the longer leg of the Mullion Fixing Angle (MFA) bracket to the top end of the Mullion on the outer web face with the shorter leg of the MFA attached to the outer web face of the Rafter with the Fastening Type specified on the Engineering Plans. The number of Mullions varies as required and is specified on the Engineering Plans.

TIP: The Endwall Mullion flange being perpendicular to the rafter may not necessarily be adjacent to the rafter as the distance of the mullion is determined by the width of the end wall girt from the edge of the slab. Hence, the shorter leg of Mullion Fixing Angle is attached to the rafter web to take up the gap.

TIP: If the position of the mullion fixing angle bracket at the top of the mullion interferes with apex bracket fixings, remove the apex bracket fixings affected temporarily, attach the mullion bracket and reinstall the apex bracket fixings.



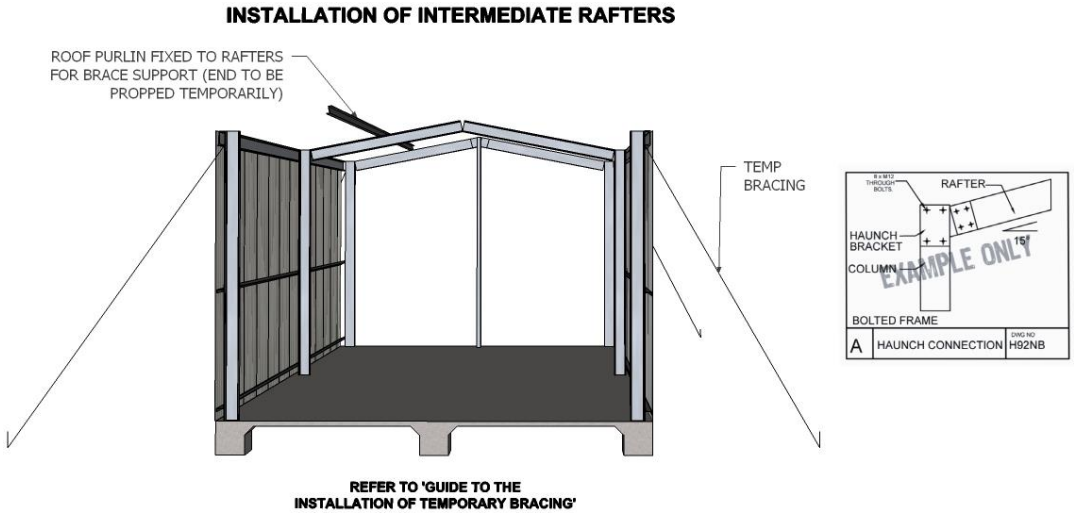
25 Installation of Intermediate Rafters

Fix the remaining intermediate Rafters to the Haunch Brackets. Refer to “Installation Of Endwall Rafter” Chapter and follow the same procedure. As one intermediate rafter assembly is put into place, at least one purlin in small buildings or more in big buildings must be fixed into position to act as brace support. If purlins are not sufficient brace support, additional temporary brace is required. Ensure each portal frame is plumb before permanently fixing the frame with the fastening type as per the Engineering Plans.

TIP: Additional temporary brace or additional purlins may be required to ensure that the rafters do not rotate around the haunch brackets.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO “GUIDE TO THE INSTALLATION OF TEMPORARY BRACING” ON THE ENGINEERING PLANS.

NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.



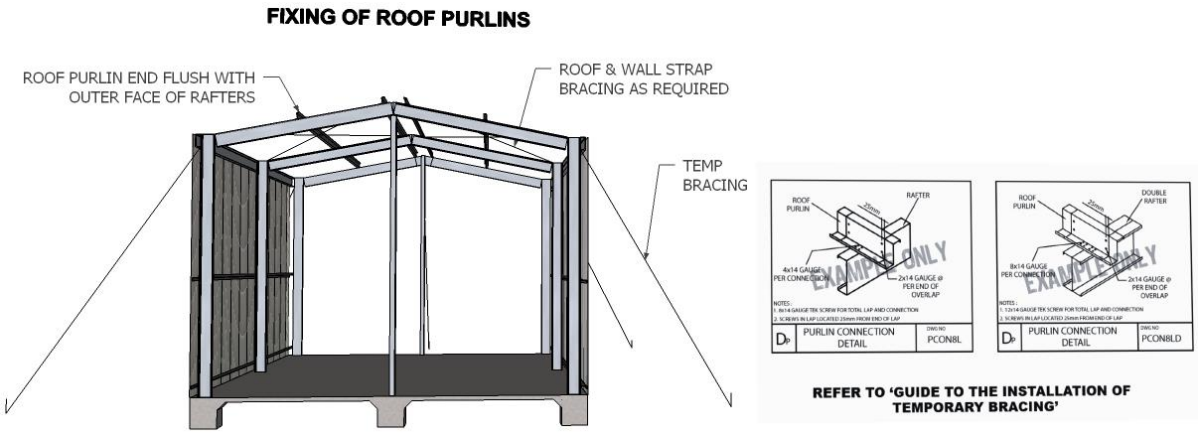
26 Fixing of Roof Purlins

Lift the pre-joined roof purlins into the rafters to line up with the temporary screws of the rafters for the purlin location. Roof purlins to flush with the outer face of the rafters on gable endwalls. Attach the roof purlins with one screw per connection initially. Ensure that gable endwall rafters and all intermediate rafters are plumb prior to purlins being permanently attached. Refer to Engineering Plans for purlin spacing. If roof strap bracing is required, fix into position as per Engineering Plans prior to laying sheets on the roof.

TIP: Purlin spacing is not necessarily the same as the girt spacing so it is imperative to refer to the Engineering Plans.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO “GUIDE TO THE INSTALLATION OF TEMPORARY BRACING” ON THE ENGINEERING PLANS.

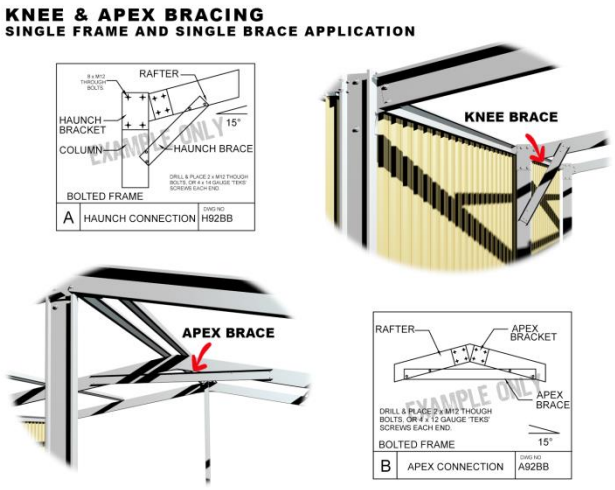
NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.



27 Fixing of Knee and Apex Brace

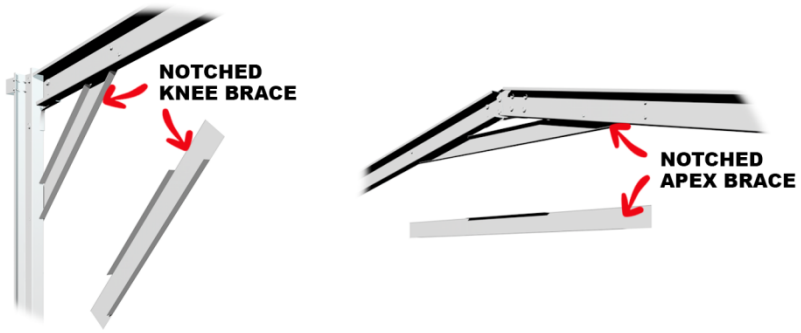
Fit knee and apex brace as required.

Flanges not notched – This option is to have the webs of knee and apex brace attach to the webs of the rafter and column where open sides face the opposite direction as the rafter and column.



Flanges notched – This option is to notch the flanges of the knee and apex brace, attach to the webs of the rafter and column where open sides face the same direction as the rafter and column.

SINGLE FRAME AND SINGLE BRACE APPLICATION



NOTE: Refer to the Engineering Plans for the specifications of fastening type of the knee and apex brace.

28 Fixing of Roof Sheeting

CAUTION: Prior to fixing the roof sheeting into position, it is imperative to check that both side walls and gable endwalls are plumb and straight by using a string line along the inner face of the columns. Re-prop intermediate columns if necessary which helps the structure become more rigid while working on the roof.

Prior to fixing the roof sheeting to the purlins, turn up the sheeting along the ridge line with pliers for added protection from rain. This process is called “weathering” the sheets. Fix the roof sheeting and allow approximately half the gutter width or 50mm (whichever is lesser) to overhang into the gutter. Ensure that the female rib of the cladding faces away from the prevailing winds. Fix the roof sheeting with the required number of roof screws. Refer to Engineering Plans for roof screw specifications and spacing.

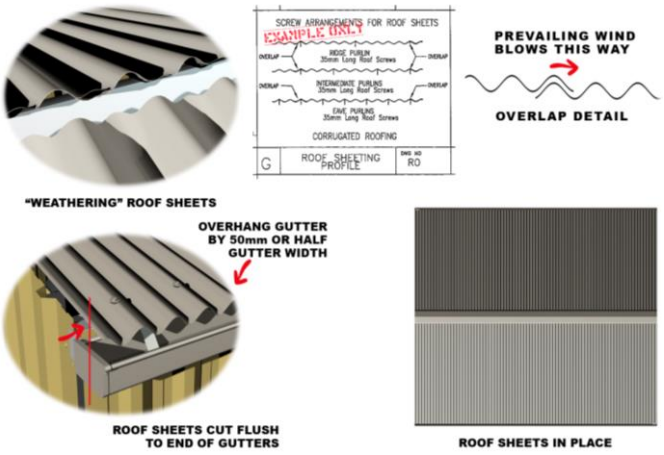
NOTE: If roof strap brace or fly brace is required, fix into position first prior to fixing the roof sheeting. Refer to the Engineering Plans for specifications and location of the roof strap brace and fly brace.

NOTE: If roof insulation is required, it must be installed first prior to roof sheets being fixed into position. Refer to manufacturer’s specifications and installation procedure for additional information.

NOTE: If skylights is required, it must be installed with safety precautions. Safety wire mesh is a requirement under the skylights. Refer to manufacturer’s specifications and installation procedure for additional information.

CAUTION: It is imperative to sweep the edge of the metal with a soft hair brush to remove “swarf”

whenever the sheets are cut. Any remaining swarf on the sheets after cutting will cause rusting and may void the warranty.



29 Fixing of Endwall Girts

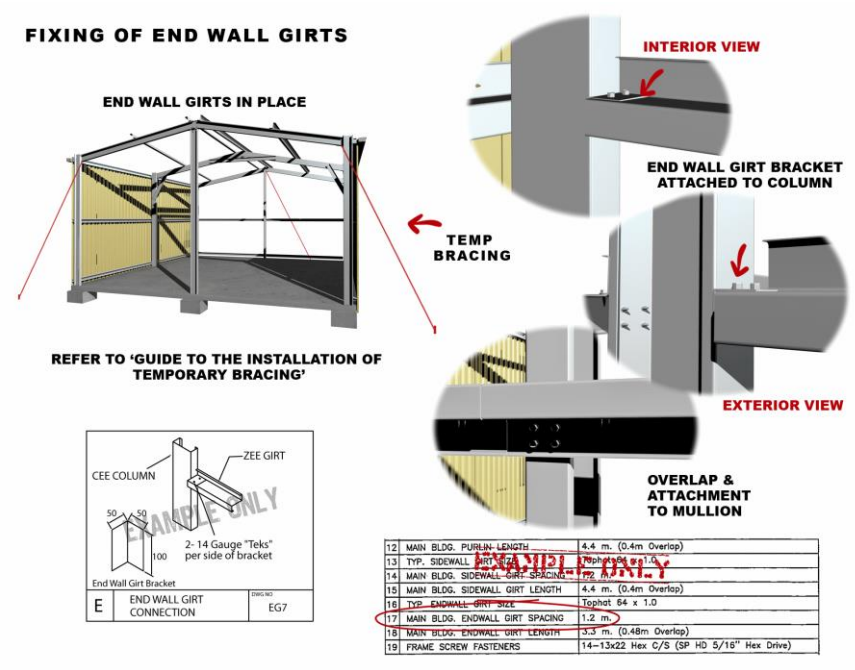
CAUTION: If a Roller Door is required on the Endwall, DO NOT INSTALL the endwall girts, REFER TO "Installation of Endwall Roller Door" Chapter instead.

Fit the Endwall Girt Bracket to the inner flange of the Endwall columns. Endwall Girt to be attached to this bracket and to the endwall mullion as required. Refer to Engineering Plans for specifications and spacing of the endwall girt.

TIP: Endwall girt bracket and endwall girt is always flush to the outer face of the frame column.

NOTE: If attachment of endwall girt to endwall mullion is required, refer to Engineering Plans for lap width.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO "GUIDE TO THE INSTALLATION OF TEMPORARY BRACING" ON THE ENGINEERING PLANS.



30 Fixing of Endwall Sheeting

Lay the endwall sheeting and ensure that the female rib faces away from the prevailing weather. Layout the Endwall Sheeting according to Multibuild's sheeting layout recommendation.

Attach the Endwall sheets at a time with the fastening type and specifications as per Engineering Plans. Use a straight edge or chalk line to ensure screws are placed in a straight line.

The endwall sheets should overlap the slab by 25mm to prevent water coming in the building. The bottom of the endwall sheets should line up with the bottom of the sidewall sheets. Fix the endwall sheets to wall girts one at a time with fastening type and specifications as per the Engineering Plans. Use a straight edge chalk line to ensure screws are in a straight line. Each last endwall sheet to flush to the outer face of the side wall girt.

NOTE: The recommended endwall sheeting layout allows for openings selected.

CAUTION: It is imperative to sweep the edge of the metal with a soft hair brush to remove "swarf" whenever the sheets are cut. Any remaining swarf on the sheets after cutting will cause rusting and may void the warranty.

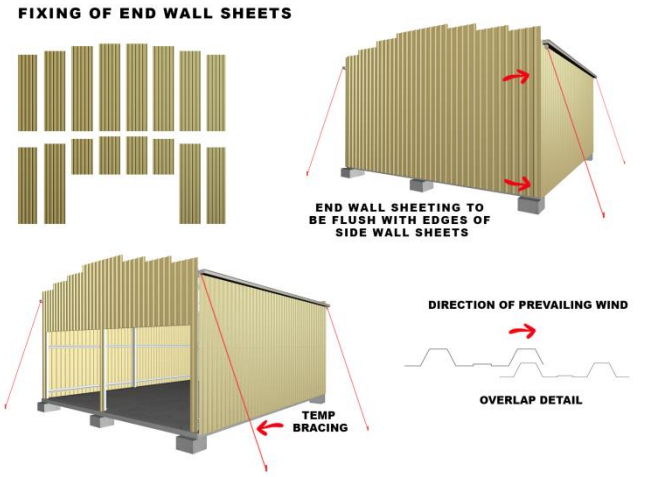
Once all the endwall sheets are fixed into position, trim the top portion of the endwall sheets to flush with or slightly below the top of the purlins to follow the roof line with an electric nibbler or tin snips. Tek screw the trimmed top portion of the endwall sheets to the top lip of the rafter.

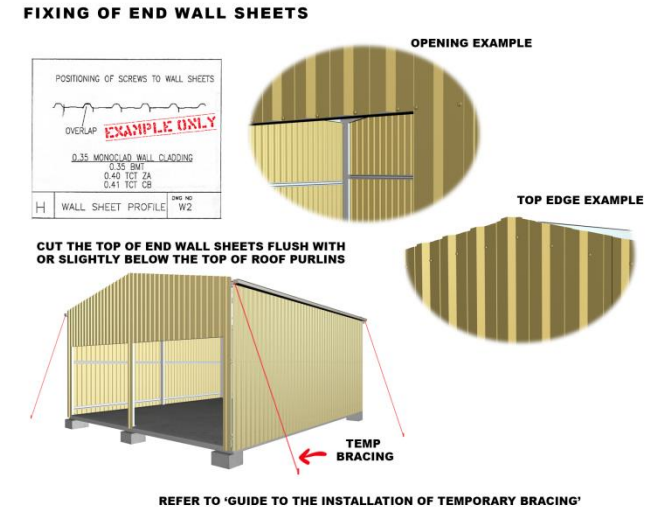
If there is an opening on the gable endwall, install and fix all the full wall sheets first and leave out the sheets where the opening is to be positioned. Once the location of the opening is established, fix all the sheets below or above the opening whichever is applicable.

CAUTION: Do not fit an opening until all sides of the wall frame are cladded and standing.

NOTE: OTHER TEMPORARY BRACING REQUIREMENTS ARE OMITTED FOR CLARITY. IT IS IMPERATIVE THAT YOU REFER TO “GUIDE TO THE INSTALLATION OF TEMPORARY BRACING” ON THE ENGINEERING PLANS.

NOTE: WALL CLADDING LOCATION AND CONFIGURATION ARE INDICATIVE ONLY. REFER TO ENGINEERING PLANS FOR CLADDING SPECIFICATIONS AND EXACT LOCATIONS.



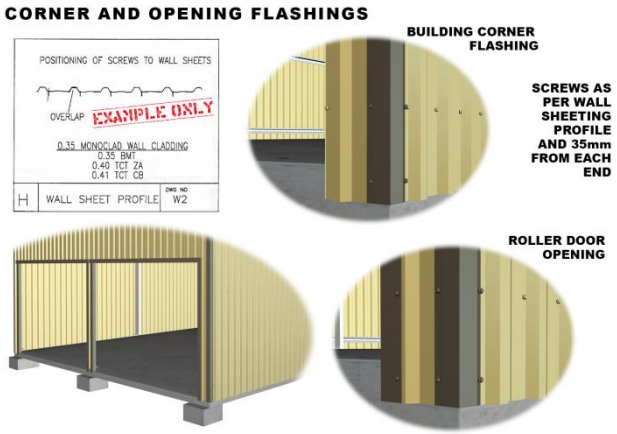


31 Fixing of Other Endwall Sheeting

Refer to “Fixing of Endwall Girts” and “Fixing of Endwall Sheeting” Chapters to fix the Other Endwall Sheeting.

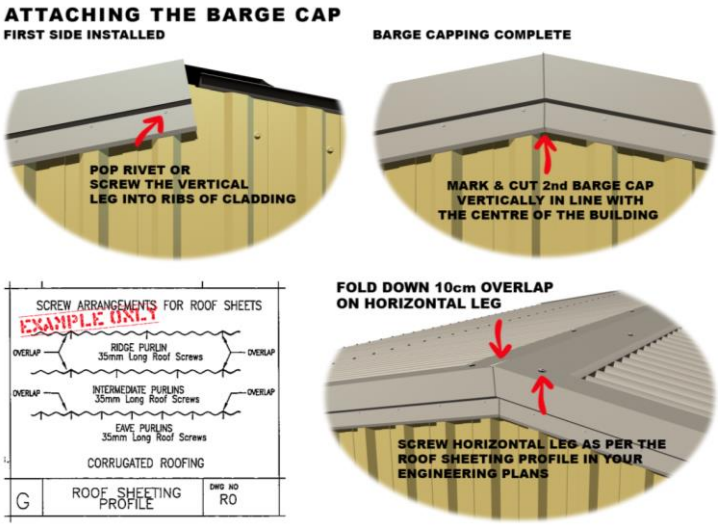
32 Fixing of Flashings

CORNER FLASHING – Fix all corner flashings with pop rivets or wall screws as required. Use the “Wall Sheeting Profile” screw arrangement and spacing as per Engineering Plans to fix the corner flashings. A wall screw or 35mm rivet from each end of corner flashing is required. Ensure that all the corner flashings are flush to the bottom of the wall sheets. Ensure that flashing is secure and watertight. Run a bead of silicone on the overlap and joints of the corner flashing.

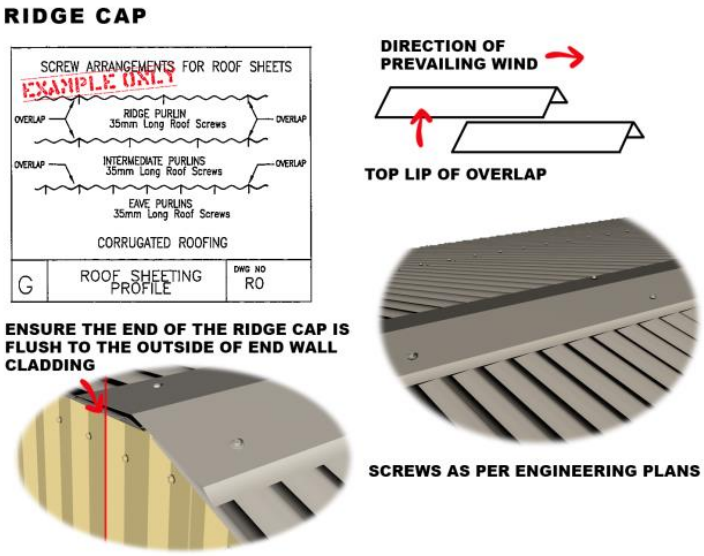


OPENING FLASHING – Fix all opening flashings with pop rivets or wall screws as required. Use the “Wall Sheeting Profile” screw arrangement and spacing as per Engineering Plans to fix the opening flashings. A wall screw or 35mm rivet from each end of opening flashing is required. Ensure that all opening flashings are mitered at corners of openings. Ensure that flashing is secure and watertight. Run a bead of silicone on the overlap and joints of the opening flashing.

BARGE CAP – Fix the first left barge cap in position starting from the ridge line with pop rivets or wall screws whichever is applicable. Ensure that the top of the barge cap is in line with the centre of the ridge cap on the same angle as the roof pitch. Fix the vertical leg of the barge cap with pop rivets or wall screws to the ribs of the wall sheets. Fix the horizontal leg of the ridge cap to the roof purlins with roof screws. Use the “Roof Sheeting Profile” screw arrangement and spacing as per Engineering Plans. Fix the second right barge cap into position and allow a 10mm overlap of the horizontal leg on the roof from the centre of the ridge cap. Mark a vertical cutting line on the vertical face of the barge cap with a spirit level. Trim the excess barge cap to the marked line with tin snips to a plumb cut. Fasten the right barge cap in position with pop rivets or wall screws using the same “Roof Sheeting Profile” guide. Fold down the 10mm overlap of the horizontal leg over to the left barge cap. Run a bead of silicone on the overlap and joints of the barge cap.

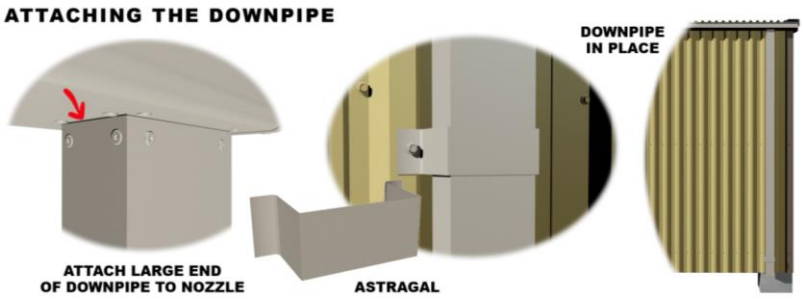


RIDGE CAP – Fix the ridge cap to the last roof purlin or to the roof sheets whichever is applicable on both sides of the ridge cap. Use the "Roof Sheeting Profile" screw arrangement and spacing as per Engineering Plans. Ensure that end of the ridge cap is flush to the outer face of the endwall cladding. Joints must face away from the prevailing wind. Run a bead of silicone on the overlap of the ridge cap.



33 Fixing of Downpipe

Remove plastic coating from the downpipe. Fix downpipes to nozzle with pop rivets or wall screws whichever is applicable. The larger end of the downpipe is attached to the nozzle to allow for a correct water flow. A downpipe bracket called "astragal" can be formed by trimming and folding to suit the required shape. Alternately, a wall screw can be fixed from the inside of the building through the bottom sidewall girt into the downpipe.



34 Installation of Window

NOTE: Refer to Manufacturer's Specifications and Installation Procedure.

NOTE: Installation of Window(s) and Associated Parts should occur after the flashings and downpipes have been fixed.

POSITION – Window(s) can be positioned anywhere between two intermediate frames on the sidewall and between endwall mullions on the endwall. Any wall strap bracing affected by the position of the opening will need to be adjusted or moved to satisfy structural requirements.

OPENING WIDTH – Refer to Manufacturer's Specifications on how to determine the Opening Width. Once the opening width is determined, mark the position of the window opening width on the sidewall girts. Once marked, wall girts are to be cut to suit the widow opening width.

OPENING HEIGHT – Refer to Manufacturer's Specifications on how to determine the Opening Height. Once the opening height is determined, three different options are available on the window jamb installation depending on the requirements.

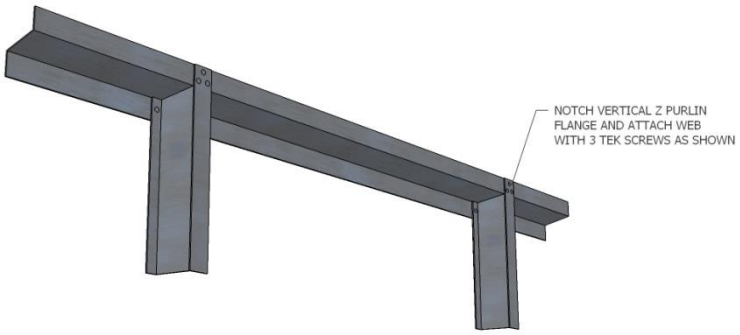
WINDOW JAMB – The window jamb material is always the same as the girt material. The three available options are as follows:

OPTION 1 – If the height of the window is EQUAL to the girt spacing, a window jamb is OPTIONAL. The top and bottom girt material can be used to support the window. The window jamb in this instance is NOT A REQUIREMENT for a Building Class 10a (Non-Habitable Building being a Private Garage, Shed or the like) but is a REQUIREMENT for Building Class 1a (Single Dwelling)or other similar Building Classifications.

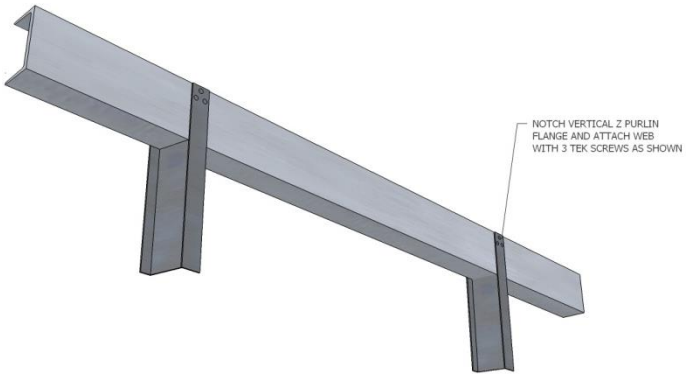
OPTION 2 – If the height of the window is LESS than the girt spacing, a window jamb is a MUST. The jamb is to extend to the next girt below and above the window opening. The support above the window opening can either be a girt or an Eave Purlin whichever is applicable. For Z-Purlin jamb, notch the web and attach the 2 legs of the jamb to the 2 legs of the Z-Purlin girt. For a tophat jamb, notch the 2 sides and attach the lip and the hat of the jamb to the lip and the hat of the tophat girt or to the lip and web of a C-Eave Purlin. The girt between the 2 jambs is to be trimmed to suit the opening width.

OPTION 3 – If the height of the window is GREATER than the girt spacing, a window jamb is a MUST. The jamb is to extend to the next girt below and above the window opening. The support above the window opening can either be a girt or an Eave Purlin whichever is applicable. For Z-Purlin jamb, notch the web and attach the 2 legs of the jamb to the 2 legs of the Z-Purlin girt. For a tophat jamb, notch the 2 sides and attach the lip and the hat of the jamb to the lip and the hat of the tophat girt

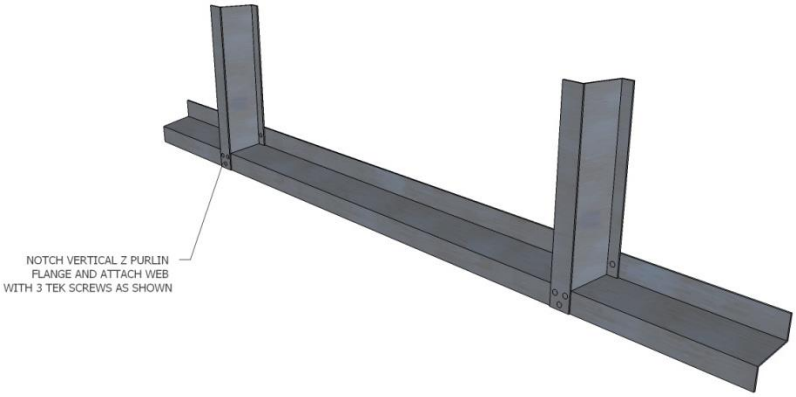
or to the lip and web of a C-Eave Purlin. The girt between the 2 jambs is to be trimmed to suit the opening width.



ATTACHMENT TO THE NEXT GIRT ABOVE AN OPENING



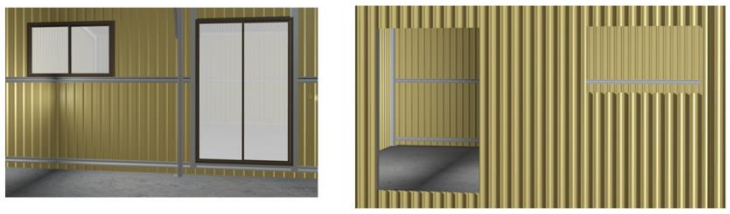
ATTACHMENT TO EAVE PURLIN



ATTACHMENT TO BOTTOM GIRT

TIP: Windows have a REVEAL or FIN which is approximately a 30mm protrusion from the centre of the window frame. This REVEAL or FIN fits between the girt and the wall sheet.

TRIM – After the opening has been permanently fixed, complete the trims and flashings around the perimeter of the opening.


GABLE END WALL WINDOW OPENINGS


GABLE END WALL WINDOWS IN PLACE

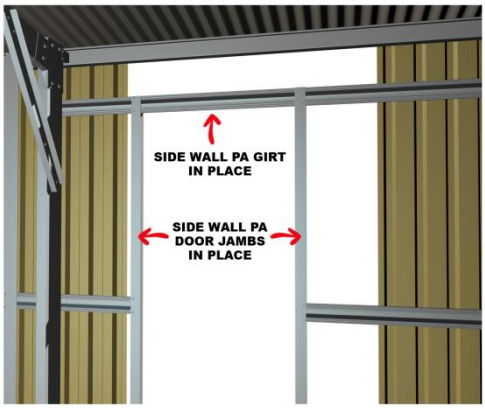
35 Installation of Personal Access Door

NOTE: Installation of Personal Access Door Jamb(s) and Header(s) should occur AFTER the wall sheeting is completed and BEFORE flashings are fixed. The pre-installed side wall sheets will need to be cut to suit the personal access door opening location and size.

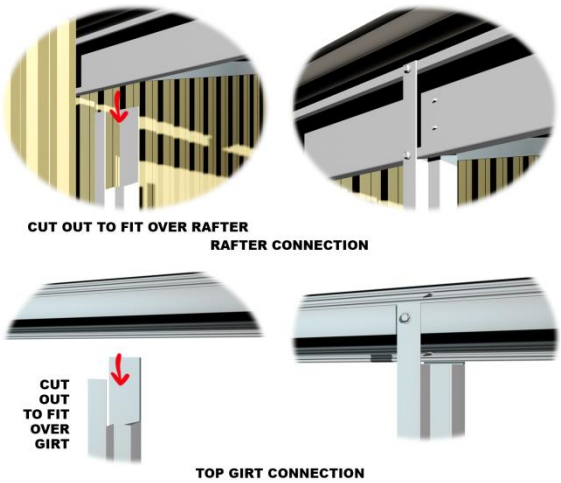
NOTE: Installation of Personal Access Door(s) and Associated Parts should occur after the flashings and downpipes have been fixed.

POSITION – Personal Access Door(s) can be positioned anywhere between two intermediate frames on the sidewall and between endwall mullions on the endwall. Any wall strap bracing affected by the position of the opening will need to be adjusted or moved to satisfy structural requirements.

OPENING SIZE – Refer to Manufacturer's Specifications on how to determine the Opening Size. The PA Door size is normally equal to the opening size. Once the opening size is determined, mark the position of the door jambs on the slab and mark the width on the sidewall girts. Once marked, wall girts are to be cut to suit the PA door opening width.

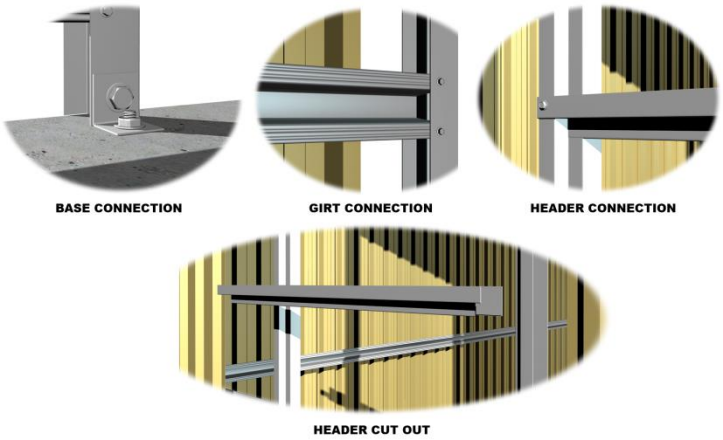


PERSONAL ACCESS DOOR JAMB –Depending on the height of the personal access door jamb, the notched top part of the jamb can either be attached to the next wall girt or to the eave purlin whichever is applicable. The door jambs are supplied in stock lengths and has to be cut and notched out to suit the next support above the door. The web part of the jamb has to be notched out and the 2 upright legs attached to two sides of either the wall girt or the eave purlin whichever is applicable. Ensure that the longer leg of the jamb faces inside the building. Ensure that the jambs are plumb prior to fixing the base cleat at the bottom of the personal access door jamb and masonry anchor to the slab. Fit both Left Hand and Right Hand personal access door jambs as per marked position.

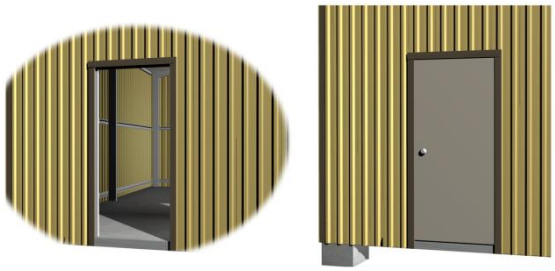


TIP: There are two types of Personal Access door Jamb, rebated and non-rebated. The installation procedures for both types are exactly the same.

PERSONAL ACCESS DOOR HEADER – The height of the door header is equivalent to the door height opening required as previously determined. Measure and mark the height of the PA door header to the two sides of the door jambs already in place. The total length of the header is equal to the door width plus twice the door jamb width. Mark on each side of the header a line to match the opening width. Notch out the web of the jamb as marked leaving the two legs. Fit and insert the Personal Door Header on each side of the jamb and fasten the two legs to the jambs with framing screws. Ensure that the open side of the door header faces up.



TRIM – After the opening has been permanently fixed, complete the trims and flashings around the perimeter of the opening.



PRE-HUNG PERSONAL ACCESS DOOR JAMB – Depending on the height of the personal access door, the notched top part of the jamb can either be attached to the next wall girt or to the eave purlin whichever is applicable. The door jambs are supplied in stock lengths and have to be cut and notched out to suit the next support above the door. The web part of the jamb has to be notched out and the 2 upright legs attached to two sides of either the wall girt or the eave purlin whichever is applicable. Ensure that the longer leg of the jamb faces inside the building. Ensure that the jambs are plumb prior to fixing the base cleat at the bottom of the personal access door jamb and masonry anchor to the slab footing. Fit both Left Hand and Right Hand personal access door jambs as per marked position.

PRE-HUNG PERSONAL ACCESS DOOR – Refer to Manufacturer's Specifications and Installation Procedure for the Installation of the Pre-Hung Personal Access Door and Associated Parts.

36 Installation of Endwall Roller Door

NOTE: Refer to Manufacturer's Specifications and Installation Procedure.

NOTE: Installation of Endwall Roller Door Jambs and Header should occur AFTER the Apex and Knee brace are in place and BEFORE Endwall girts are fixed.

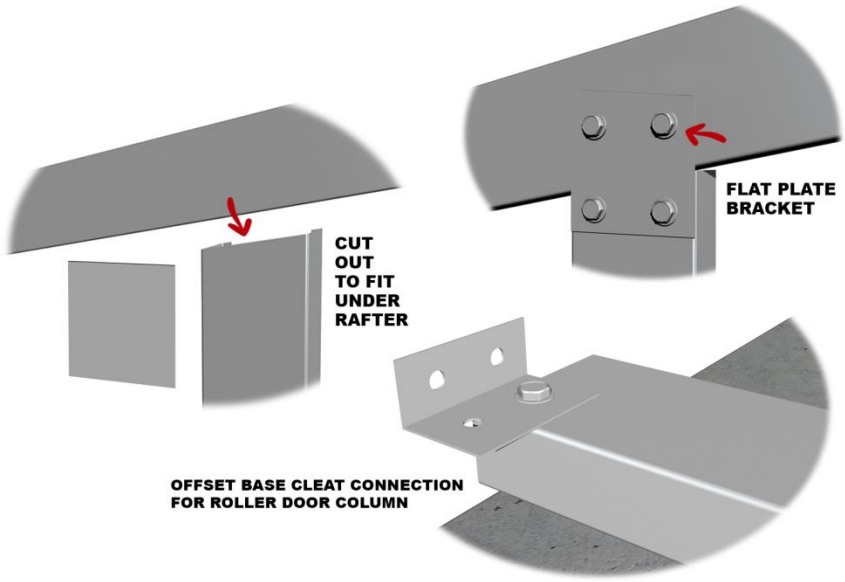
NOTE: Installation of Endwall Roller Door and Associated Parts should occur AFTER the flashings and downpipes have been fixed.

POSITION – Endwall Roller Doors can be positioned on the endwall as required. If the position overlaps the location of the endwall mullion(s), mullion(s) can be moved fractionally ensuring that

the maximum span of the endwall girt is not structurally compromised. Any wall strap bracing affected by the position of the opening will need to be adjusted or moved to satisfy structural requirements.

OPENING SIZE – Refer to Manufacturer's Specifications on how to determine the Opening Size. Opening size is smaller than the Roller Door size due to allowance of door tracks and the roller drum. Once the opening size is determined, mark the position of the C-Purlin door jambs on the slab.

END WALL ROLLER DOOR COLUMN CONNECTIONS



END WALL ROLLER DOOR COLUMN TO RAFTER CONNECTION

ROLLER DOOR JAMBS – The orientation of the Roller Door Jamb is the same as a single Frame Column and Rafter where the web faces inside the building. Attach a base cleat bracket to the outer web of the door jamb. Ensure that the base cleat is offset to allow for the roller door track. Position the door jamb vertically as per the opening width mark on the slab. Chalk line the door jamb to the underside of the rafter following the roof pitch. Cut the marked line on the ground with a drop saw or angle grinder. Attach to the top cut portion a mullion fixing Angle halfway to allow for the other half of the mullion fixing angle to attach to the rafter. Reposition the jamb vertically to sit under the rafter flushed to the outer web of the rafter and flushed to the outer edge of the slab. Drill holes through the pre-installed base cleat and masonry anchor the base cleat to the slab. Plumb the Door Jamb and attach to the outer web of the rafter. Refer to the Engineering Plans for the fastening type, size and quantity to the bracket and to the slab.

GABLE END WALL ROLLER DOOR CONNECTIONS

BASE CONNECTION **GIRT CONNECTION** **HEADER CONNECTION**

TIP: In some instances, the frame column can be used as Endwall Roller Door Jamb if the roller door is required to be offset on either the farthest Left End or Right End of the building.

TIP: Where exact fit roller door option on the endwall is selected, endwall girt is not required. Where exact fit option is not selected, endwall girt is fitted between the roller door and frame columns supported by the endwall girt bracket attached to the flanges of the jamb and the frame column.

ROLLER DOOR HEADER – The height of the door header is equivalent to the door height opening required as previously determined. Measure and mark the height of the header to the two sides of the door jambs already in place. Fit the C-Purlin Door Header between the jambs with endwall girt brackets and framing screws. Finish the wall sheeting around the roller door and trim.

TRIM – After the opening has been permanently fixed, complete the trims and flashings around the perimeter of the opening.

ENDWALL ROLLER DOOR – Refer to Manufacturer's Specifications and Installation Procedure for the installation of the Endwall Roller Door and Associated Parts.

GABLE END WALL ROLLER DOOR

37 Completion

Make a final check of the completed structure.

Ensure that all base cleats have been tightened down firmly.

Ensure that all bolts are complete and tightened.

Check that the roof and wall screws are complete and tightened.

Brush the completed structure down including the roof with a soft hair broom to remove any swarf (metal dust and fillings caused by an angle grinder).

Hose down the concrete slab to remove any particles, screws and rivets for safety.

STAND BACK AND CONGRATULATE YOURSELF ON A JOB WELL DONE!