



ManEx Assembly Guide & Connection Details

Introduction

Congratulations on your purchase of a Capital Steel Building.

Before commencing any assembly, it is advisable to read through these instructions in detail to gain a thorough understanding of assembly methods and associated details. Before you start the erection of your building it is essential that you have all the statutory approvals that are required from the authorities in your area.

Read this Assembly Guide in conjunction with:

1. Engineering Drawings supplied with the building.

It has all of the connection and elevation drawings specific to your building. These drawings will nominate member sizes and spacing, as well as other relevant information.

NOTE: THE ENGINEER'S DRAWINGS AND CALCULATION PACK SUPERCEDES ANY INFORMATION IN THIS ASSEMBLY GUIDE.

2. Bill of Materials – BOM

This is a list of all components ordered for this building. Consult it to understand what each component is intended for and so you can check you have received all the components for your kit.

Note that any damages and shortages MUST be reported, in writing, within 48 hours of delivery. If known at the time, also make a comment on the delivery driver's paperwork.

Capital Steel Ltd intends this Assembly Guide to be an erection guide only.

To comply with Health and Safety Legislation, risk assessments and method statements are the responsibility of the erector and must be prepared and provided to a client prior to any work commencing.

- Check your responsibilities under the Health and Safety at Work Act
- Check your responsibilities under the Construction (Design and Management) Regulations 2007 (CDM 2007).
- Ensure all involved are familiar with the HSE's Working at Height Regulations 2005.

Do this on the internet by visiting the HSE website at www.hse.gov.uk and consulting the following publications:

Managing health and safety in construction. Construction (Design and Management) Regulations 2007. Approved Code of Practice L144 HSE Books 2007 ISBN 978 0 7176 6223 4

Health and safety in construction HSG150 (Third edition) HSE Books 2006 ISBN 978 0 7176 6182 4

The HSE and Insurance companies have become increasingly concerned about the number of lightning strikes that have led to fires. We recommend you consider conducting a 'Lightening Risk assessment' for your project. An example of a company that can assist is http://www.omegaredgroup.com/lightning_protection.asp

Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice L24 HSE Books 1992 ISBN 978 0 7176 0413 5

General Guidelines for Erectors

- Ensure appropriate netting, access and edge protection is in place.
- Do not work on the building in damp conditions without taking proper precautions and do not walk on roof sheeting in damp, wet or frosty conditions.
- Check that all appropriate insurances, training and certificates for contractors and their employees are in place.
- Ensure risk assessments and method statements have been completed prior to any works being undertaken.
- Plan the work

Temporary instability of the structure

Temporary instability of the structure during erection results in a high risk to those carrying out the construction work and to others in the area. Ensure the structure is stable particularly early in the erection phase.

Structures can only be safely erected if the first bay (known as the stable end core) is fully stabilised before the remaining steel bays are erected.

The preferred system of erection, using temporary or permanent bracings, is shown in Figure 1. Until the stable end core is in position, effective props and/or supports need to be in place to stabilise the incomplete structure. A stable end core for the preferred system in Figure 1 will only be achieved when the following elements are fixed into position:

- two mainframes or portals are fully connected;
- diagonal bracings;
- roof plane bracings – if required
- a minimum of three purlins securely connected on each roof pitch.

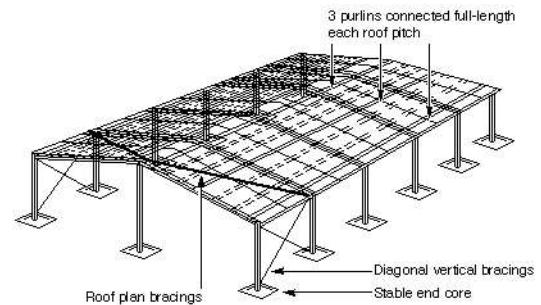
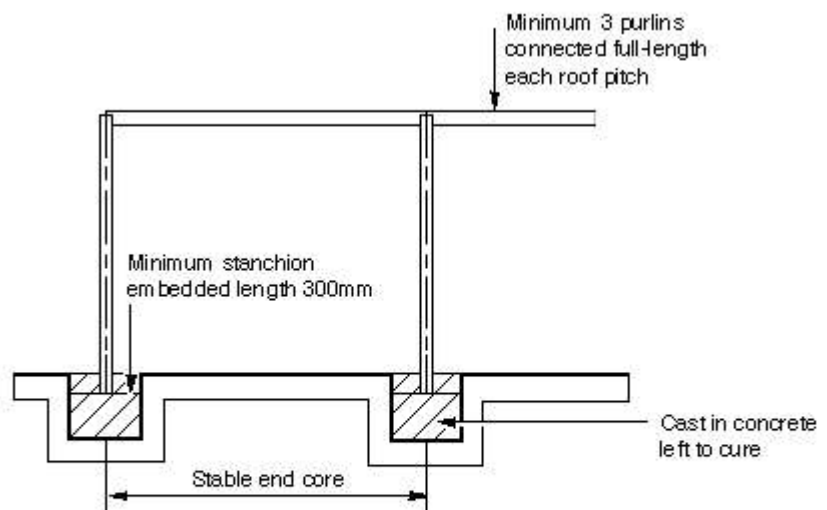


Fig 1 Typical steel-framed agricultural building showing preferred minimum erected elements to ensure temporary stability (stable end core)

An alternative system using cast-in concrete foundation bases is shown in Figure 2. In this case the stable end core will only be achieved when:

- two mainframes are fully connected;
- stanchions to mainframes are bolted onto cured concrete foundation bases or cast into cured concrete pocket bases; and
- a minimum of three purlins are securely connected on each roof pitch.

In both cases, all temporary bracings should remain in position until the structure is complete; remember that roof plane bracings, purlins or eaves beams by themselves will not provide adequate stability.



**Fig 2 Alternative cast-in bases to achieve temporary stability
Concrete bases left a minimum curing period of 24 hours before releasing temporary props and continuing erection sequence along length of building**

Caution

Some components in your kit may have sharp edges - wear gloves when handling these.

It is also advisable to wear protective eyewear when drilling holes or using any cutting equipment.

Protective headwear, footwear and high visibility clothing are essential.

Do not erect your structure in wet, icy or windy conditions, and ensure all anchors are inserted when instructed to do so.

Common Safety Hazards: - These are just a few of the more common safety hazards, although every possible hazard must be addressed and resolved prior to commencing.

- Electrical wires - both overhead and underground
- Water pipes
- Wet tools, materials, surfaces
- Pitfalls, ledges, potholes , trip hazards
- High wind areas – keep a weather eye
- Vibration
- Working at height
- Noise
- Manual handling
- Other trades on site
- Traffic

Initial Checks

Before you start to erect your building it is advisable that you carry out the following procedures: -

- Check that you have all of the materials. The supplier of this building will have issued you with a material check list. Ensure that all of the products on the list have been delivered. **Remember** you only have **48 hours** to report damage and shortages
- Check your concrete.

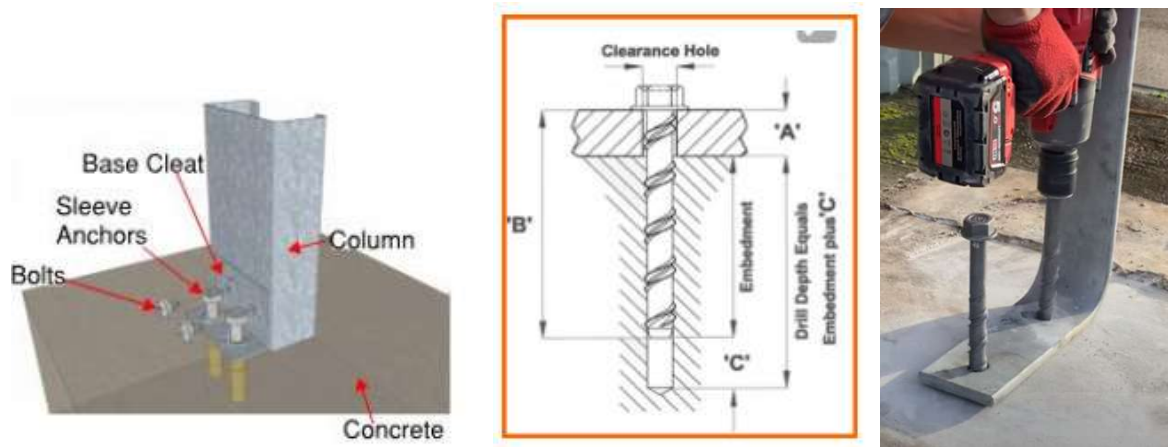
Your slab should be level and the same size as your building. Undersize slabs will not allow you to anchor your building correctly. Oversized slabs will require the wall sheets to be trimmed by 25mm and your water tight seal will be lost. The slab diagram supplied to you will give you your diagonal measurements to check that the concrete is correct.

PRODUCT CODES AND IDENTIFICATION

To assist you in identifying the primary structural components in your building we have include Product Codes in the Parts List. Look for these codes on components or bundles when checking your delivery from the manufacture.

In addition the codes have been added to the Frame depictions.

PLEASE NOTE:- THROUGH OUT THIS ASSEMBLY MANUAL YOU WILL SEE FREQUENT REFERENCES TO SLEEVE ANCHORS –



THE CAN BE IDENTIFIED IN YOUR PARTS LIST AS **HSB16 X 120 EXCALIBUR SCREWBOLT ANCHORS**.

PLEASE ENSURE YOU AND YOUR BUILD TEAM FOLLOW THE INSTRUCTIONS BELOW FOR INSTALLING THEM

TOOLS FOR THE JOB

We suggest an impact hammer with a torque range between 75 -250Nm, such as Bosch GDS 18E.

Drill bit size for M16 bolt is 16mm (SDS 16mm)

Minimum depth is embedment + two diameters (extra depth is to make room for dust and debris as the bolt is screwed into the concrete)ie $120 + 16 + 16 = 152\text{mm}$

In addition, you will need a 24mm IMPACT socket.

Start screwing in slowly to enable leading thread to correctly engage and then increase to full power.

When the built-in washer engages, **STOP**. Full clamping force should have been obtained.

Note, clearance hole in steelwork for M16 bolt is 19mm.



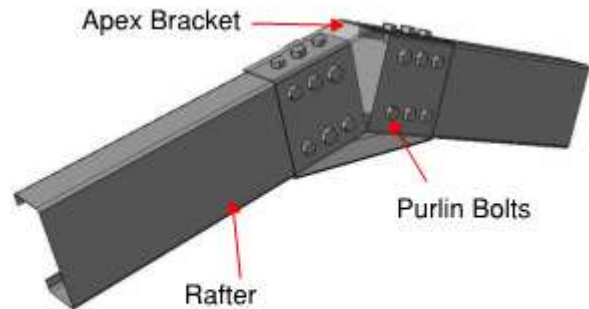
End Portal Assembly

Find the four **End Rafters** in the materials supplied. The size and length will be noted on the material list. These may be a different size and/or thickness to the **Internal Rafters**.

Locate the two **Apex Brackets** which join these **End Rafters** together.

The **Apex Bracket** is to be fixed to the webbed side of the **End Rafter** using the **Purlin Bolts** provided.

Once all bolts are fastened, a minimum of two **Frame Screws** should then be used to secure the **Apex Bracket** to the **End Rafter** and prevent any movement in the bolt holes.



Note – Generic drawing only. See connection detail supplied to see the bolt layout for your building.

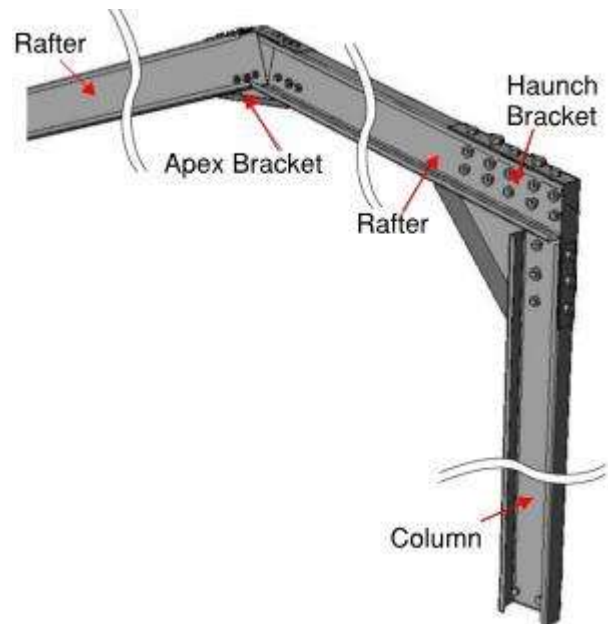
End Column Assembly.

Find the four **End Columns** in the materials supplied. The size and length will be noted on the specification sheet. These may a different size and/or thickness to the **Internal Columns**.

The **Haunch Bracket** connects to the top of the **End Column** and will eventually join the **End Columns** to the **End Rafters**.

End columns must have webbed side facing inwards. (Webbed side denotes the flat surface area on Cee section)

The **Haunch Bracket** is to be fixed to the webbed side of the **End Column** using the **Purlin Bolts** provided. Once all **Purlin Bolts** are fastened, a minimum of two **Frame Screws** should then be used to secure the **Haunch Bracket** to the Cee section and prevent any movement in the bolt holes.



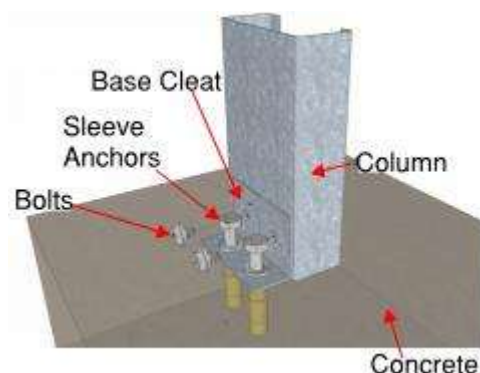
Standing the Portal

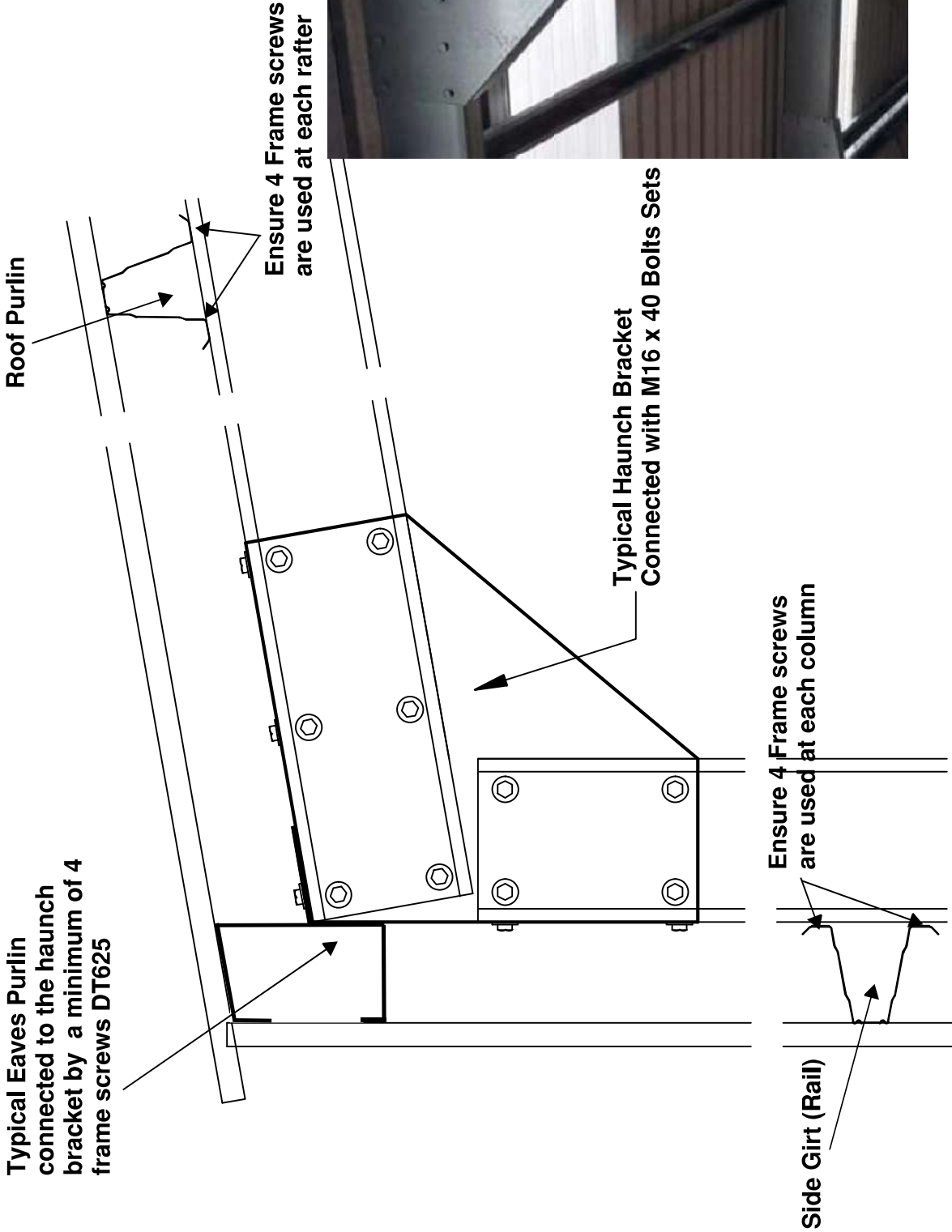
Side Wall - When standing the End Wall Portal position the Portal so that Columns are stood and then fixed a distance in from the edge of the slab equal to the height of the Side Wall Girt (e.g. if the Side Wall Girt is a Z150 the distance that the Column should be fixed in from the edge of the slab will be 152mm).

End Wall – The End Portal is to be fixed so that the Column sits on the edge of the concrete.

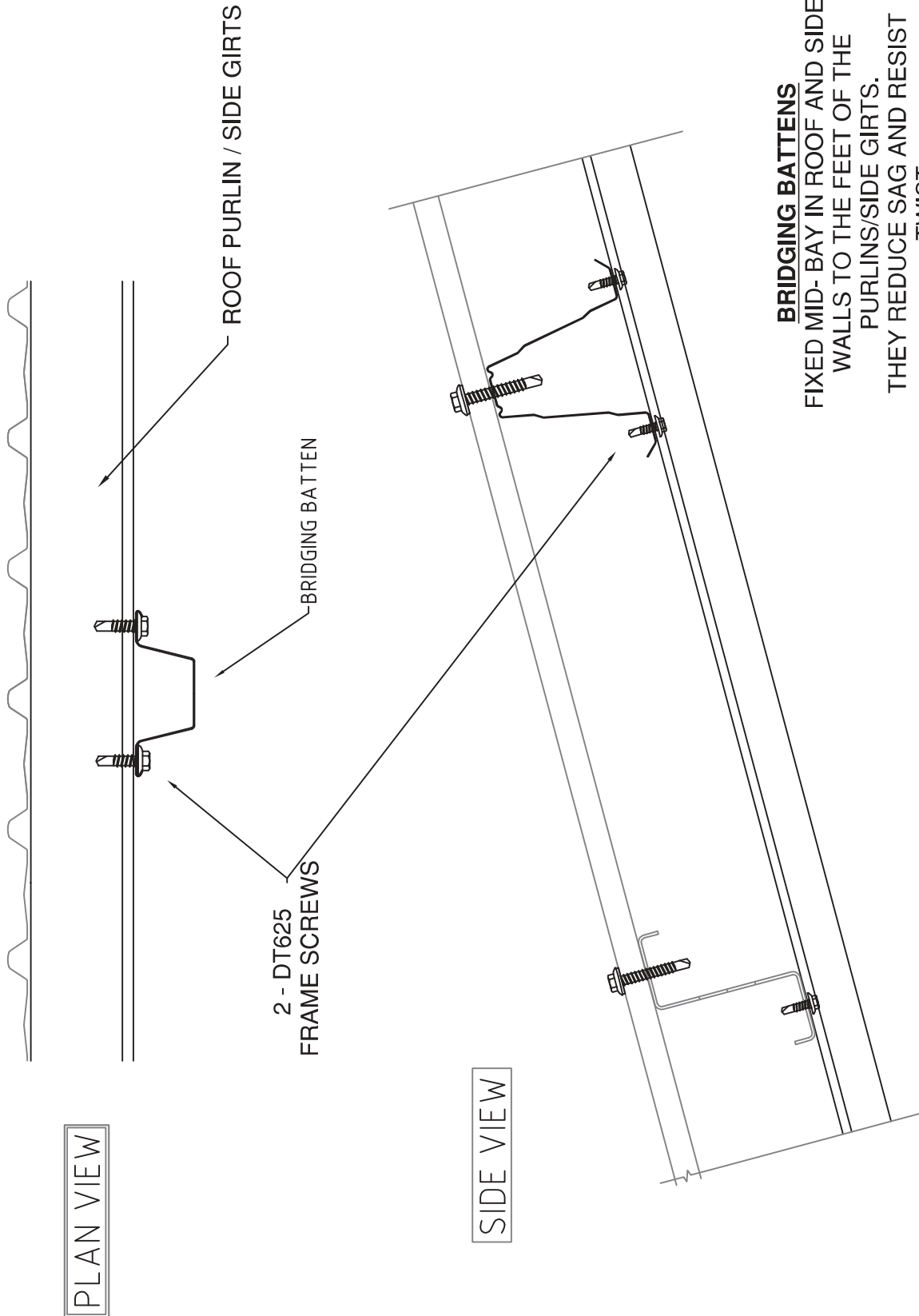
Base Cleats

The **Base Cleat** is used to fasten the **End Columns** to the anchor point. The **Base Cleat** is to be fastened to the web side of the **End Column** using the **Purlin Bolts** provided as shown in the diagram. Check your connection details for sleeve anchor sizes.





TYPICAL HAUNCH BRACKET



BRIDGING BATTENS
 FIXED MID-BAY IN ROOF AND SIDE
 WALLS TO THE FEET OF THE
 PURLINS/SIDE GIRTS.
 THEY REDUCE SAG AND RESIST
 TWIST

BRIDGING

Eave Purlins

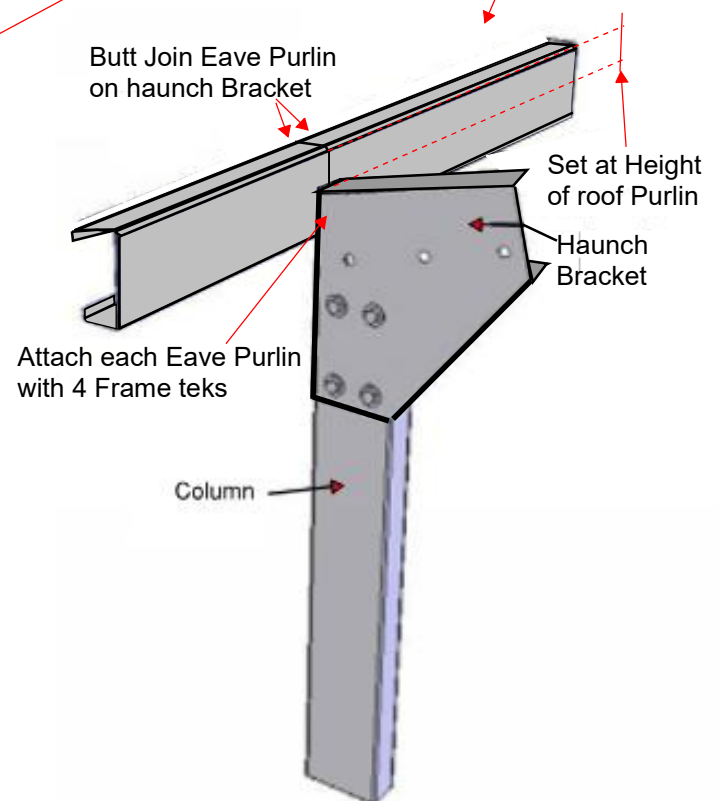
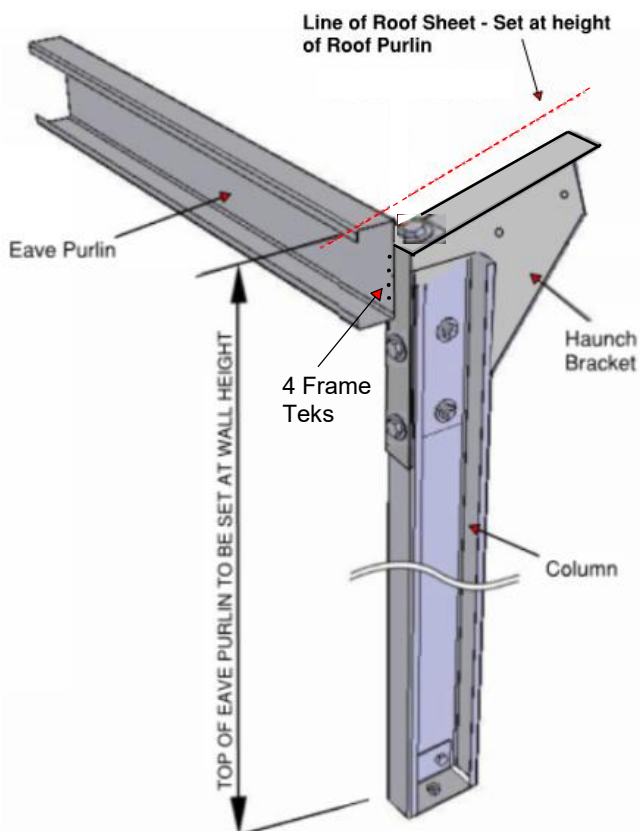
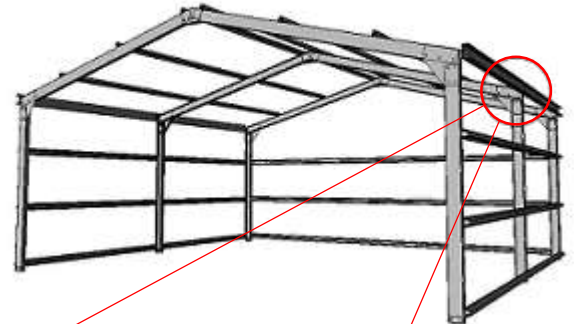
Eave Purlins are used to attach the **Side Wall Cladding** and **Roof Sheeting** at the eave position.

Lay the columns out where the building is being erected. Place the base of the column close to where it is being attached to the foundation. The top of the column should be towards the centre of the building.

The **Eave Purlins** are fixed to the top outside edge of the columns using 4 frame teks in each end of the Eave Purlin.

Measure up from the base of the columns and attach the **Eave Purlins** at the nominal height of the wall. The overall length of the building is set at this point, and the Eave Purlins are Tek screwed to the Gable Posts using 4 Frame Tekes.

Only use one **Frame Screw** at each join to allow the frame to pivot when measured and squared. Once the frame is square a total of four **Frame Screws** should be fixed in each join. This is done after the **Side Wall Girts** is installed.

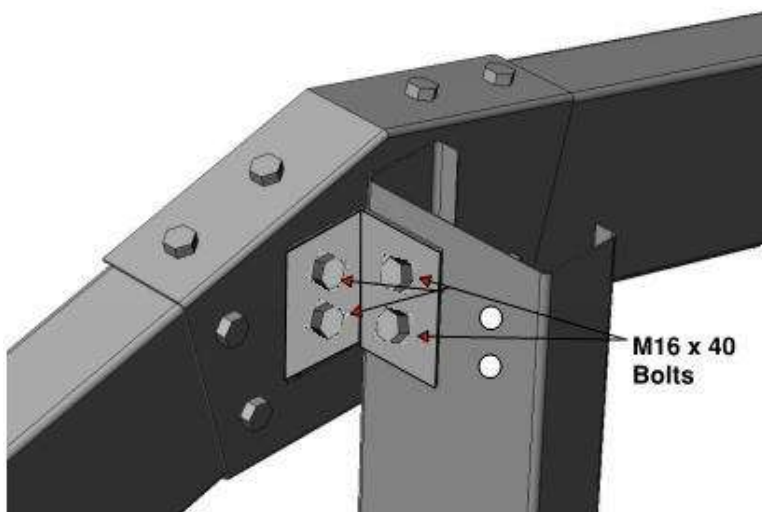
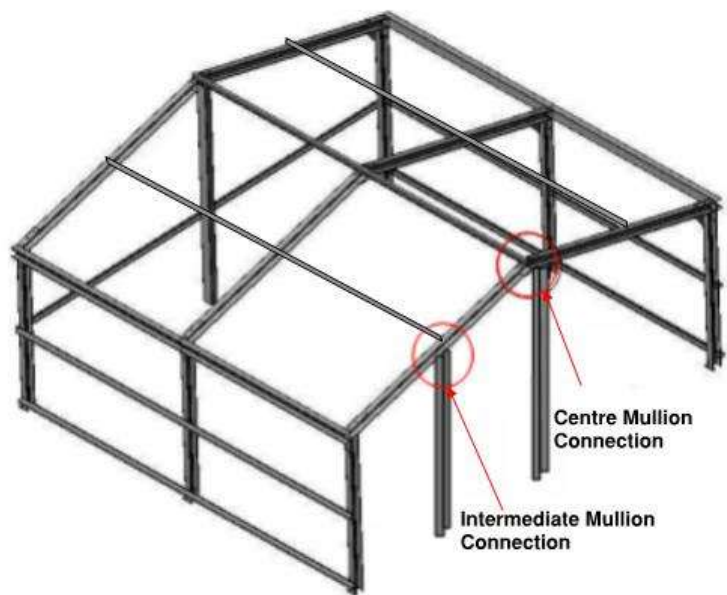


End Wall Mullions – Tophat Girts

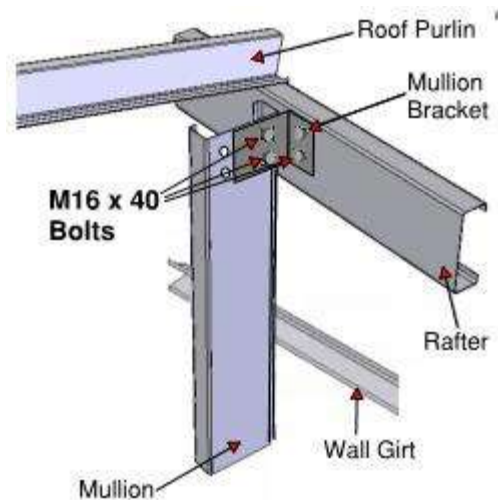
Once the rafters are secure, the **End Wall Mullion/s** can be installed.
Attach the **Base Cleats** to the End Wall Mullions using the **Purlin Bolts** supplied.

Mark the location of where the mullion base is to be stood, using the End Wall Bay Spacing measurement in the Specification Sheet. Stand the **End Wall Mullion/s** against the **End Rafter** and if needed mark it to be cut the same height as the top of the **End Rafter**. Once cut, attach the **End Wall Mullion** side-on to the rafter directly by drill two holes on either side of the **Mullion Bracket** and insert two **Purlin Bolts** to hold it in position.

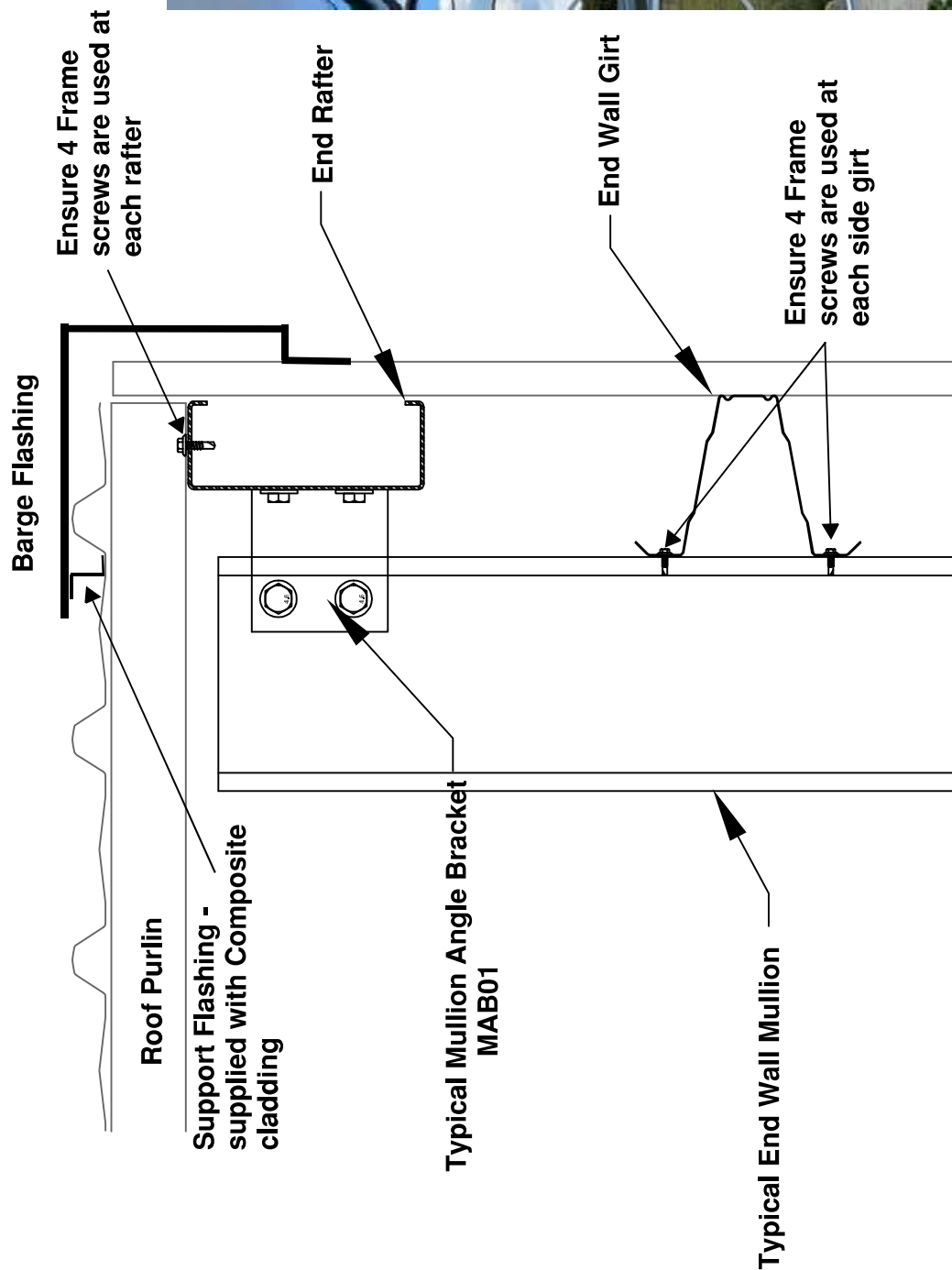
Once level vertically secure the **End Wall Mullion** by drilling and inserting the **Sleeve Anchors** into the concrete base. Fasten the **Sleeve Anchors** using a socket wrench, making sure the fastener is completely tightened.



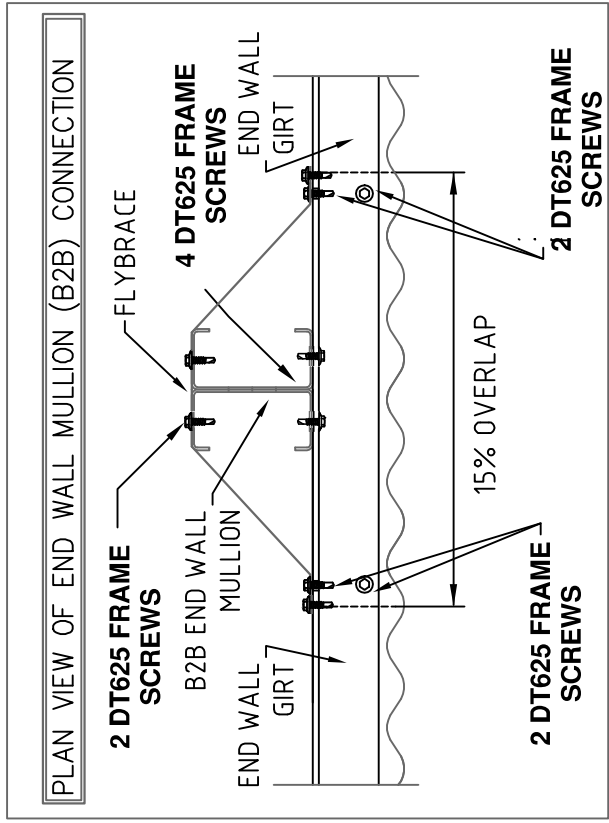
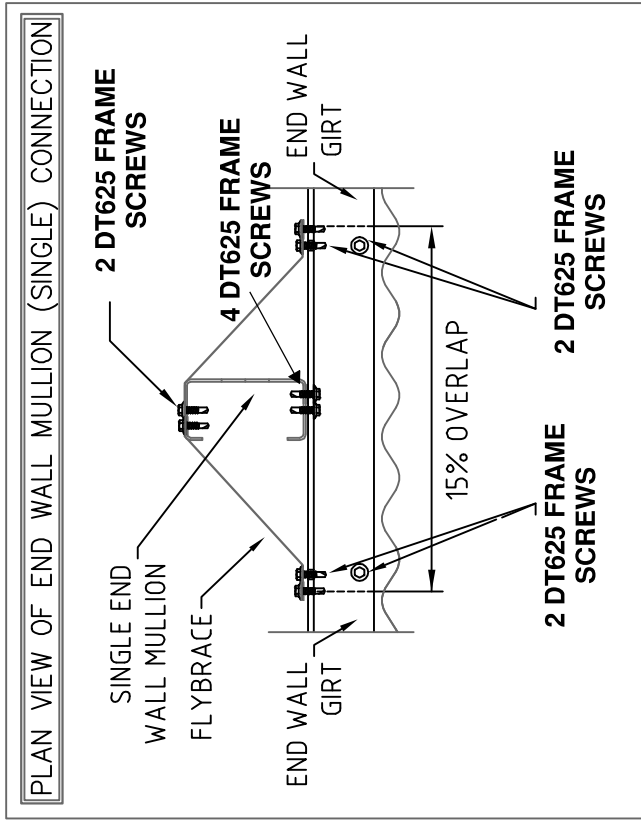
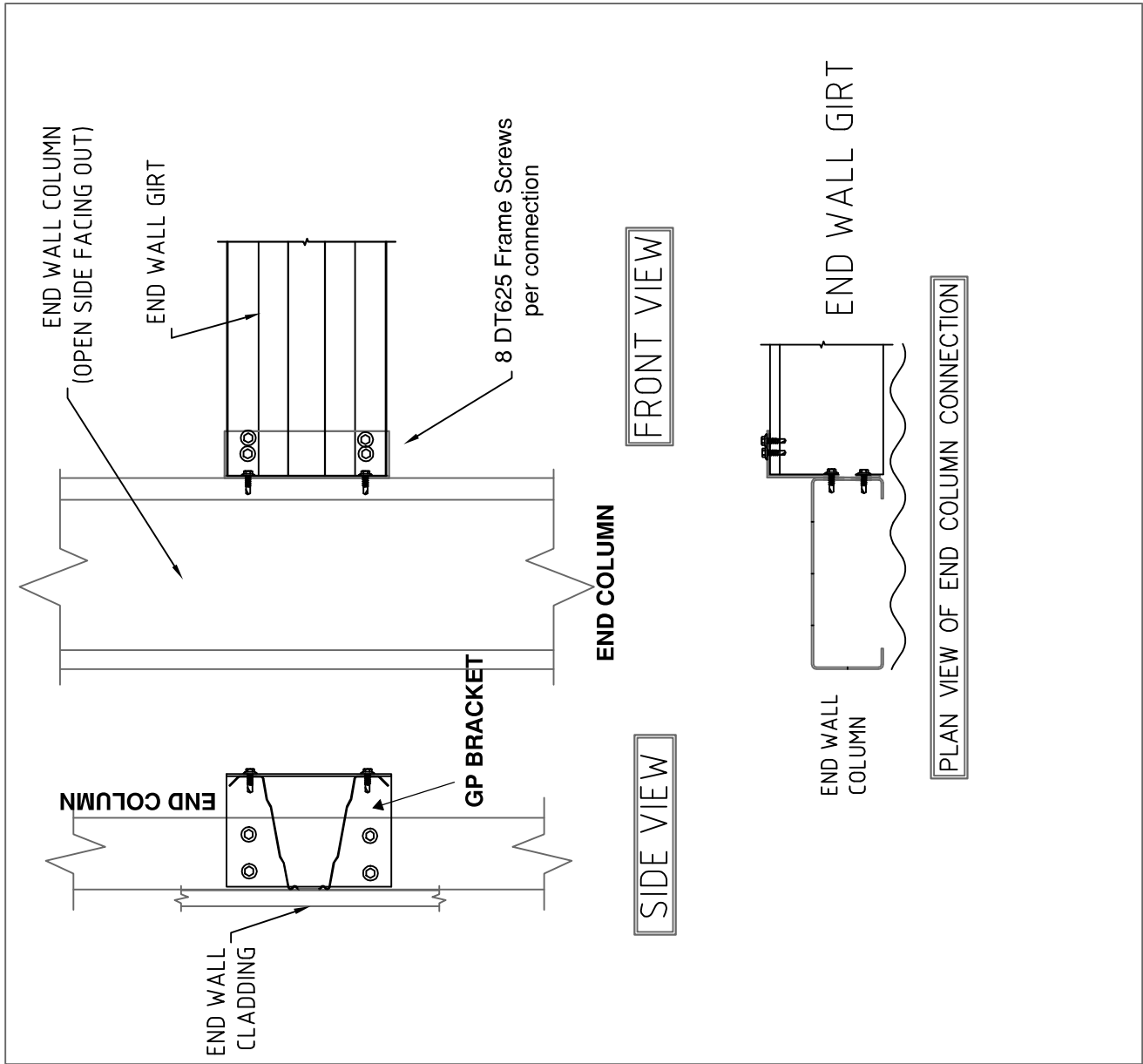
Centre Mullion



Intermediate Mullion



END WALL MULLION ARRANGEMENT



END WALL MULLION ARRANGEMENT

CSL New Signature Top Hat Design – The Top Hat 120

If you have purchased one of our smaller buildings where purlin and girt spans are little more than 3 metres then our software will have specified our Top Hat 61 section for your purlins, side and end girts. These are thin gauge sections, supplied in stock lengths, that readily overlap each other to form a continuous cladding line

TH6110_3000	6	1	SMAN	Tophat 61 x 1.0mm 3.0m long	Front Bay Roof purlin
TH6110_3000	6	1	SMAN	Tophat 61 x 1.0mm 3.0m long	Back Bay Roof purlin
TH6110_3450	12	1	SMAN	Tophat 61 x 1.0mm 3.45m long	Side wall girts
TH6110_3450	12	1	SMAN	Tophat 61 x 1.0mm 3.45m long	End wall girt

If your building has bigger bay spans then you will have been supplied with our new Top Hat120 range of purlins, side and end girts. They are all 120mm in depth, varying in gauge and have a swaged end. It is CRITICAL you use the correct Top Hat for a particular location.

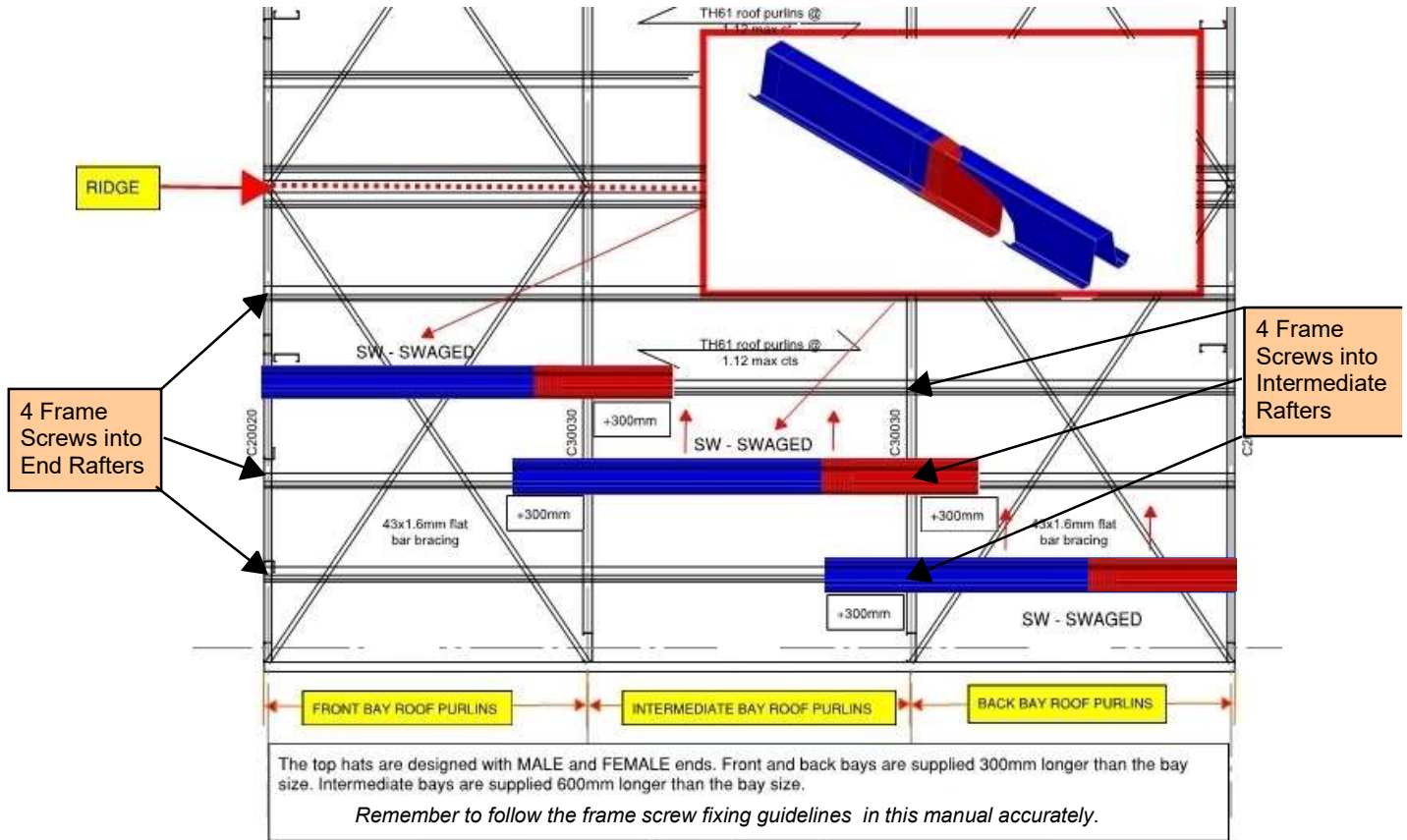
For the location of your purlins, side girts and end girts refer to the Usage column in the parts list

Order Code	No OF	Measure	Description	Usage
TH121845SW	8	5.3	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Front Bay Roof purlin
TH121845SW	8	5.6	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Intermediate Roof purlin
TH121845SW	8	5.3	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Back Bay Roof purlin
TH121845SW	6	5.3	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Front Side wall girts
TH121845SW	6	5.6	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Intermediate Side wall girts
TH121845SW	6	5.3	Tophat 120 - 1.8mm x S450 material - CE - 1224 - CPR - 0615	Back Side wall girts
TH121845SW	6	3.88	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Left End wall girts
TH121845SW	6	4.6	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Intermediate End wall girts
TH121845SW	6	3.88	Tophat 120 - 1.8mm x S450 material - SWAGED CE - 1224 - CPR - 0615	Right End wall girts

They are made to the exact bay sizes plus an allowance for the overlap. As a guide the length of to expect Front and Back Bay lengths will be +300mm over bay size. Intermediate lengths will be + 600mm in length

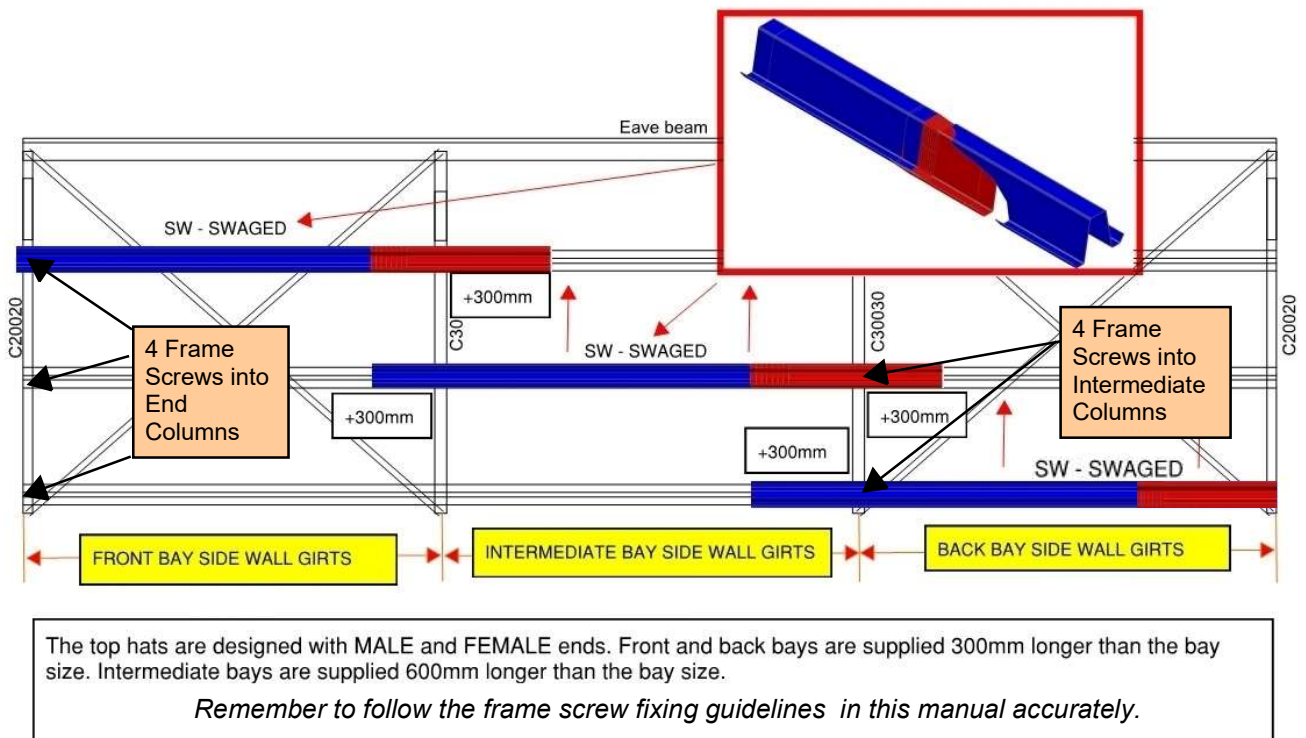
The text CE-1224-CPR- 0615 is our CE reference for the Top Hat 120

ROOF PLAN



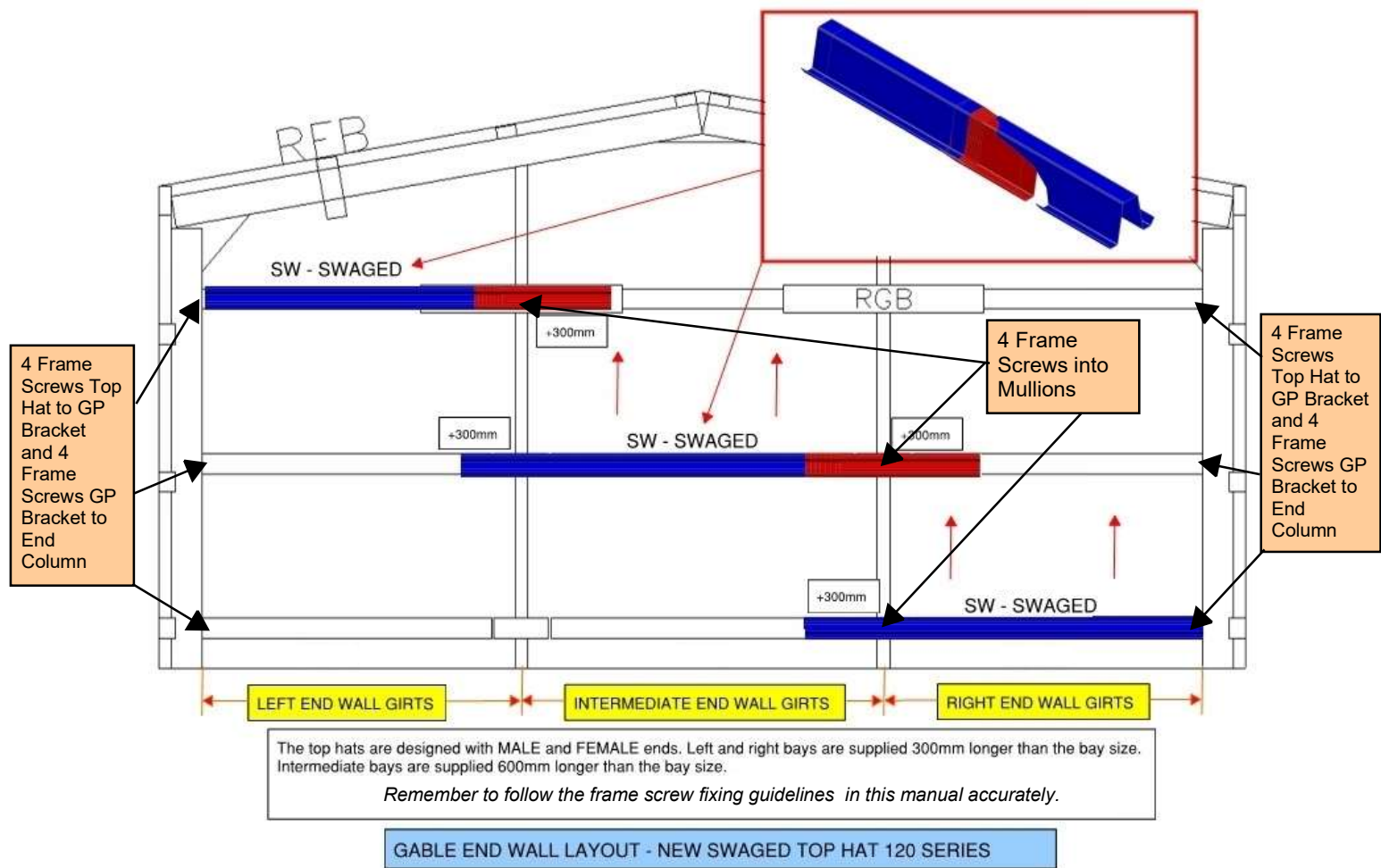
GABLE ROOF LAYOUT - NEW SWAGED TOP HAT 120 SERIES

SIDE WALL LAYOUT



SIDE WALL LAYOUT - NEW SWAGED TOP HAT 120 SERIES

END WALL LAYOUT



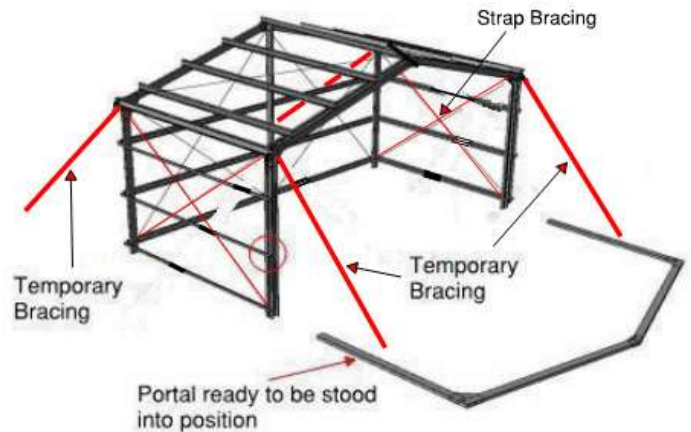
Side Wall Girts – Tophat

To begin the construction processes stand two portals. The wall should be constructed so that the outside edges of the Side Wall Girts are flush with the edge of the slab. Stand the first portal and temporarily brace it into position. Then stand and brace the second portal at the appropriate bay spacing. Once the two portals are in position attach the **Eave Purlins**. Next attach the **Side Wall Girts**, then the **End Wall Girts**, and finally the **Roof Purlins**. Secure the bottom **Side Wall Girt** 100 mm above the concrete

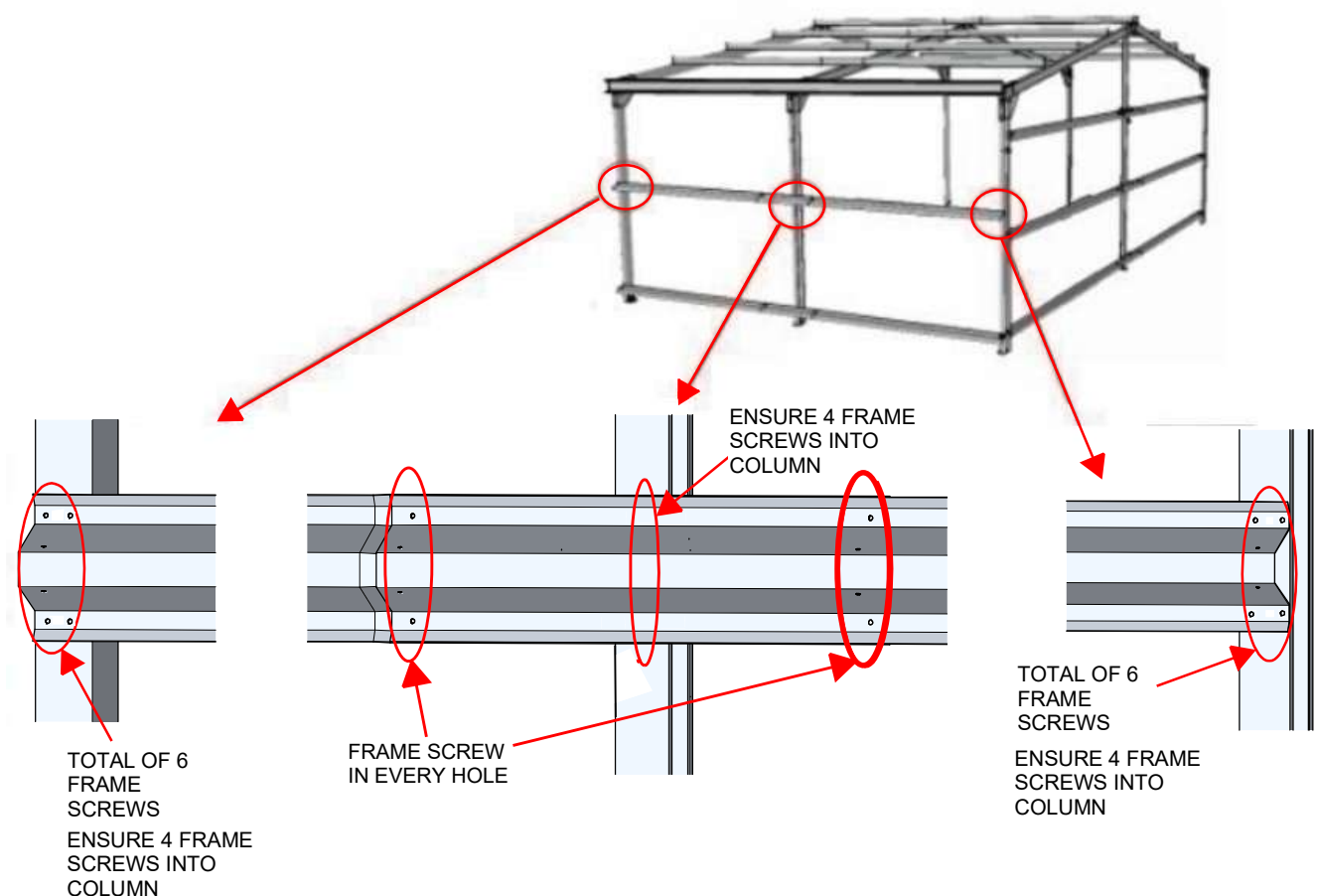
Follow the frame screw fixing patterns illustrated below

Next insert **2 Frame Tek's** through the **Haunch Brackets** into the **Rafters** and insert **2 Frame Tek's** through the **Haunch Bracket** into the **Columns**. This will prevent any movement in the bolt holes.

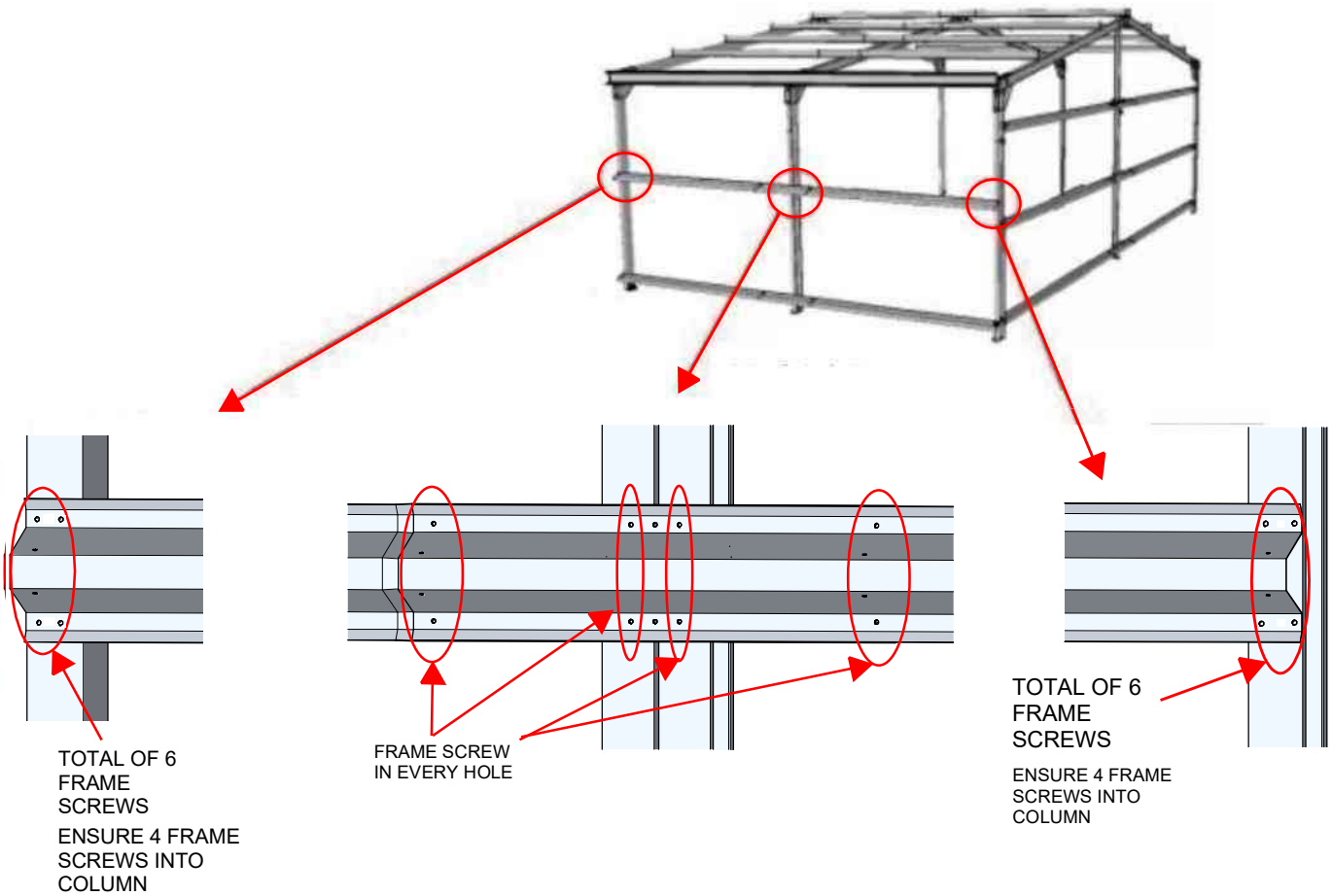
Attach strap bracing in the first bay if the engineering details require it. If bracing of the first bay is not required leave the temporary bracing in place until all the **Wall Girts** and **Roof Purlins** are all attached and tightened.



SINGLE COLUMN AND RAFTER ARRANGEMENT



BACK TO BACK COLUMN AND RAFTER ARRANGEMENT

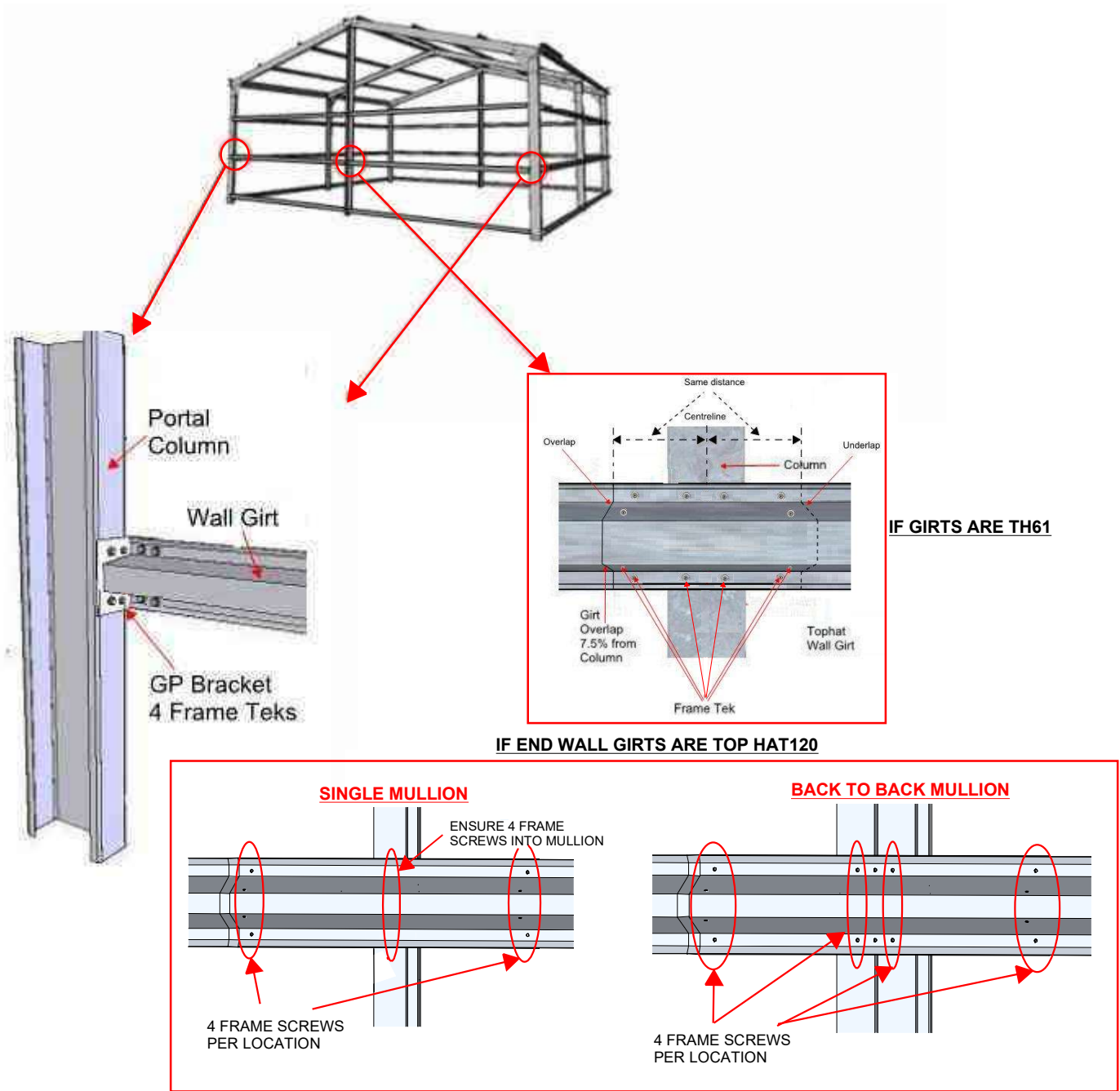


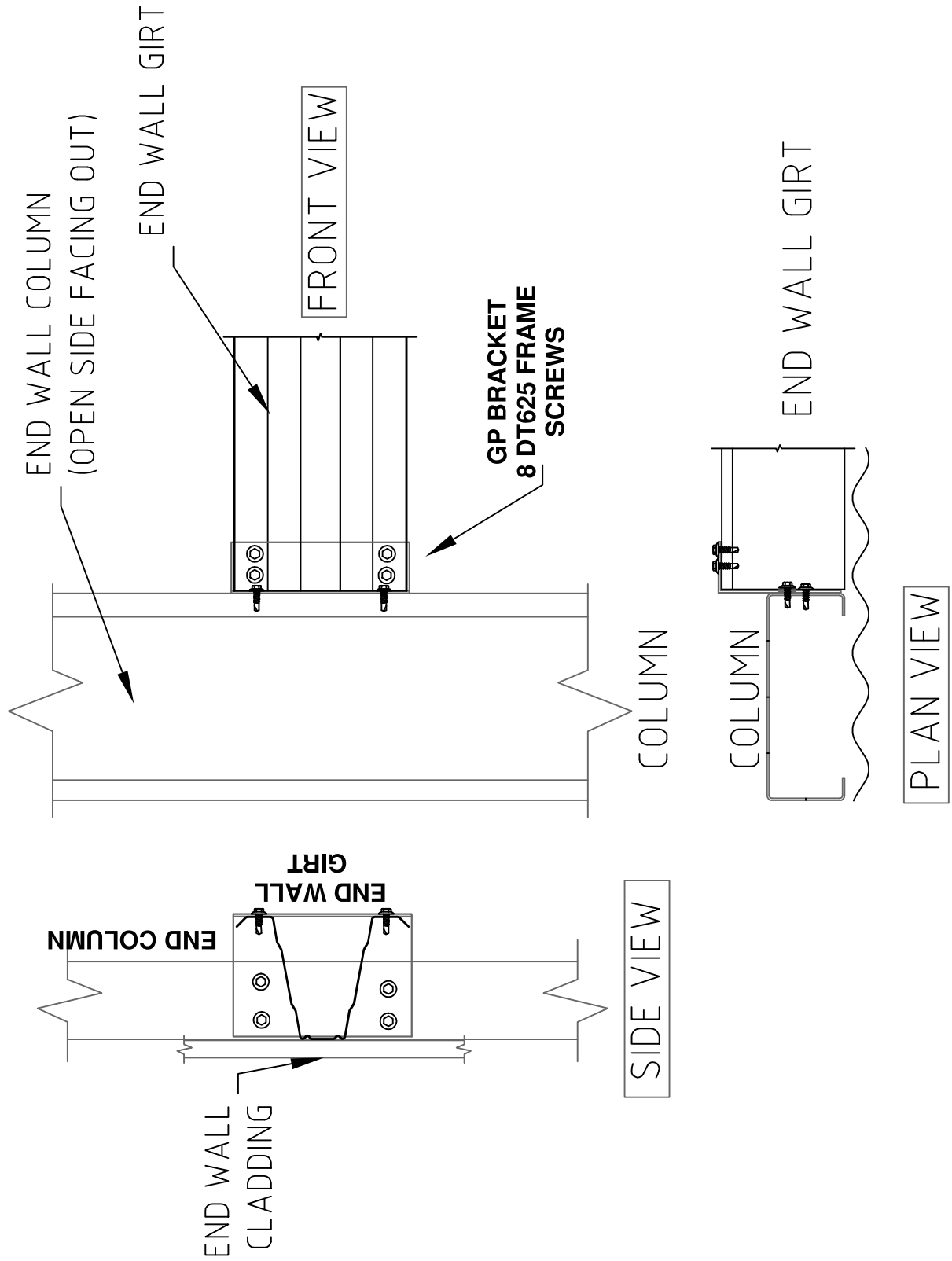
End Wall Girts - Tophat

Attach **General Purpose (GP) Brackets** to the inside flange of the **End Columns**, **End Roller Door Mullions** and **End Wall Mullions**, in any location where there is a gap between them of greater than 200mm. The **GP Bracket** is connected to the flange of these sections using **4 Frame Screws**.

They are generally connected at the same height as the **Side Wall Girts** but **not always**. Check your engineering specifications for the correct spacing. Cut and fit the **End Wall Girts** to the **GP Brackets**. Use **4 Frame Screws** to connect the **End Wall Girts** to the **GP Brackets**.

Follow the frame screw fixing patterns illustrated below





END WALL GIRT ARRANGEMENT

Roof Purlins - Tophats

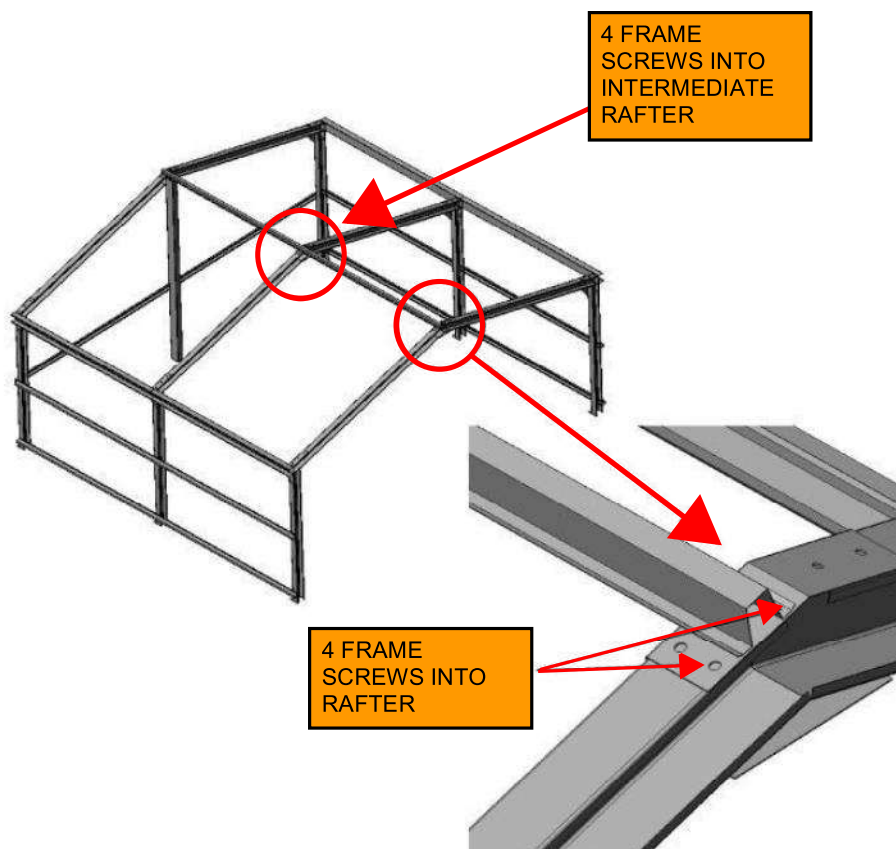
Once the rafters have been set in place, the **Roof Purlins** can be fixed. The length of the **Roof Purlins** will be sufficient to span a bay with enough extra to allow for an overlap. Mark the **Roof Purlin** with a marker to indicate the width of the bay.

The **Roof Purlin** spacing is given in the Specification Sheet. Mark the rafters with a marker to indicate where the rows of **Roof Purlins** are to be fixed.

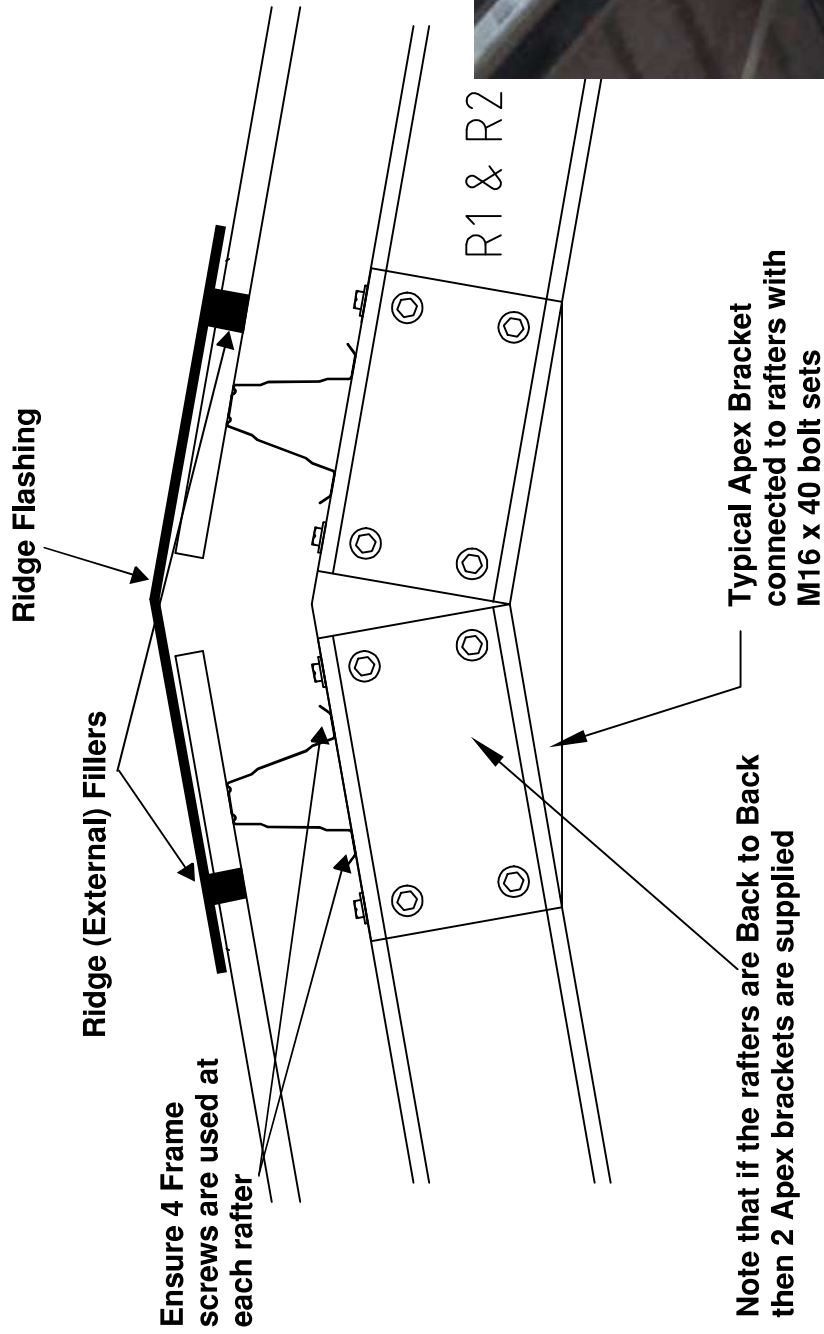
Fix the **Roof Purlins** to the **End Rafters** using a single **Frame Screw**, and then align the **Internal Rafters** with the marks on the **Roof Purlins**. Use one **Frame Screw** at each join to allow the frame to pivot when squared.

Use a spirit level to plumb the **End Wall Mullion** which will also plumb all of the rafters. If there are no **End Wall Mullions**, mark a straight line between two side wall columns using a chalk line. Now hang a plumb bob from the rafter, once the plumb bob meets the line, the rafter is plumb.

Once the rafters are plumb, fasten a total of **4 Frame Screws**, per rafter, into each **Roof Purlin** joint to secure the roof.



TYPICAL APEX BRACKET ARRANGEMENT



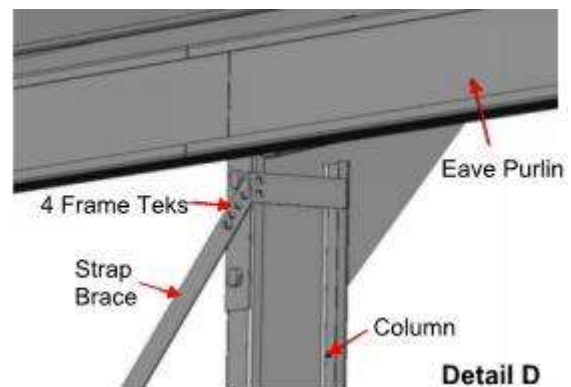
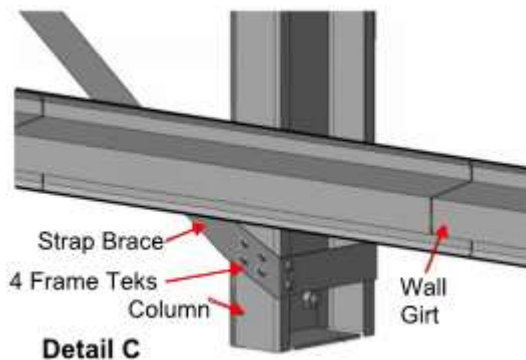
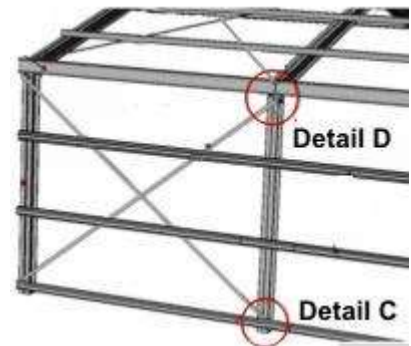
Strap Bracing

Refer to the engineering specifications to determine which bays need Strap Bracing. The Strap Bracing will need to be applied prior attaching the Wall Cladding and the Roof Sheeting.

Walls

Measure the diagonal length of the wall bay, from the top of the column to the base of the next column. Add 1m to this measurement to allow for attachment to the columns. Cut two lengths of strap to this measurement.

To attach correctly fasten the Strap Bracing to the bottom of the side wall column on each side of the bay using a single Frame Screw. Pivot the Strap Bracing and screw to the top of the side wall column on the opposite side of the bay applying the desired tension. Once the desired tension has been set, apply a second Frame Screw at each join to secure.

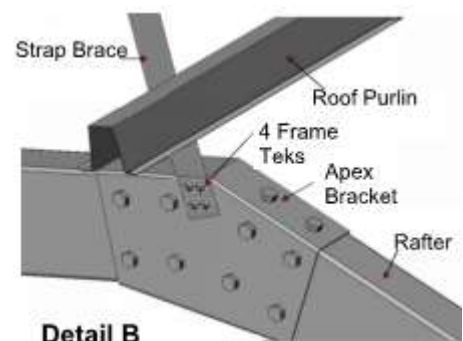
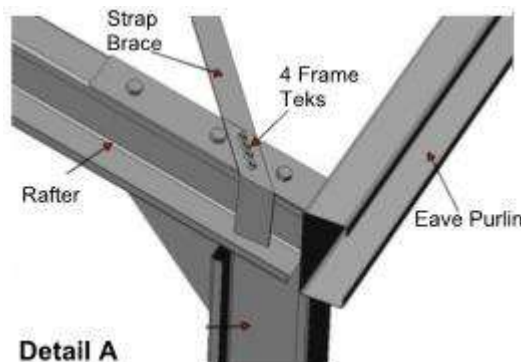
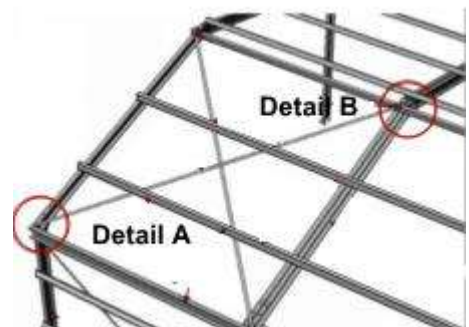


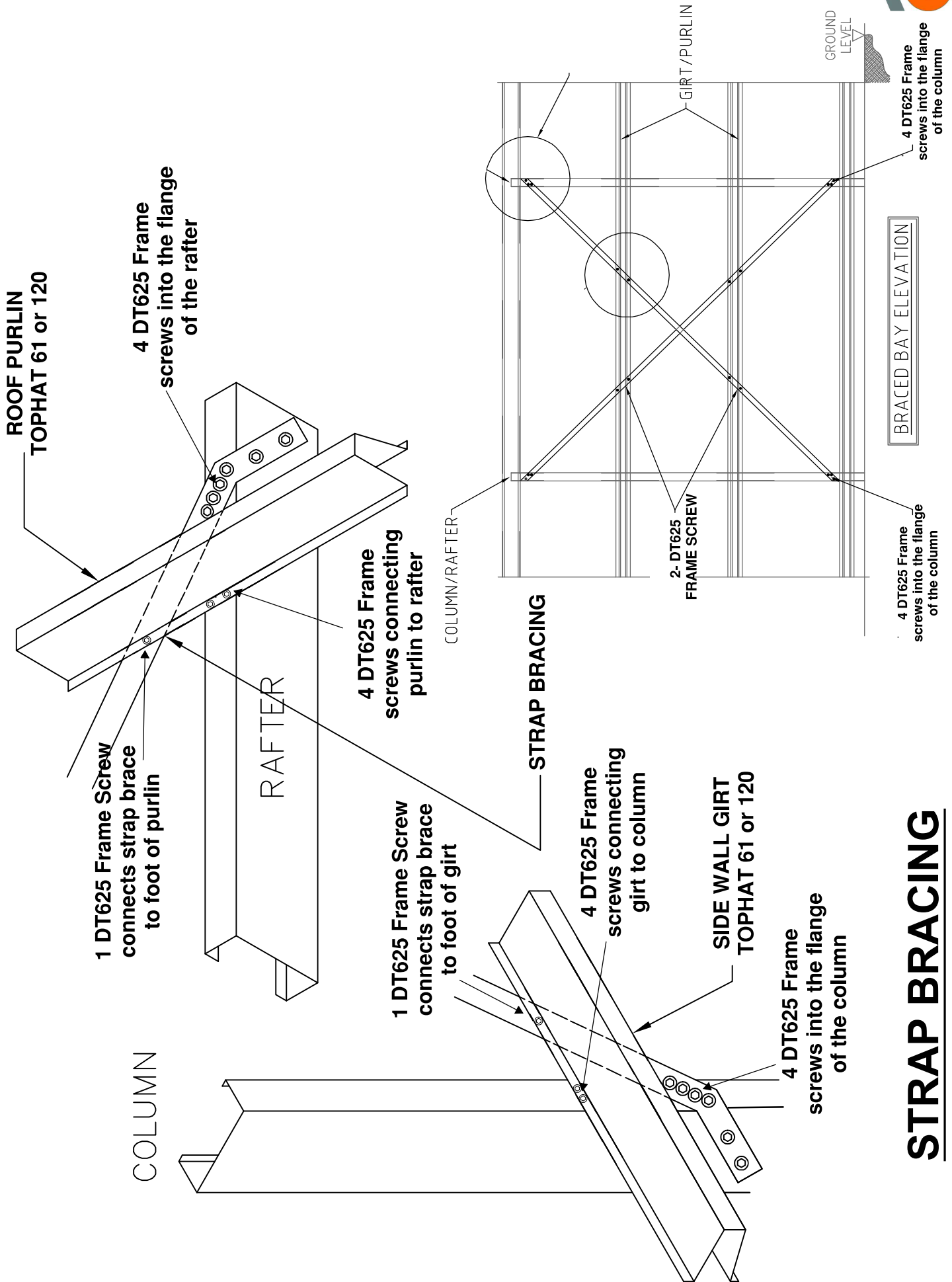
Roof

Measure the diagonal length of the roof bay. Add 1m to this measurement to allow for attachment. Cut two lengths of strap to this measurement.

To attach correctly fasten the strap bracing to the bottom of the rafter on each side of the bay using a single frame screw. Pivot the strap bracing and screw to the top of the rafter on the opposite side of the bay applying the desired tension.

Once the desired tension has been set, apply a second frame screw at each join to secure.





STRAP BRACING

Roller Doors - End Wall

Measure the **Roller Door** and the roller door tracks. Subtract the combined width of the tracks from the total curtain width of the door which will provide your door opening measurement. (Example - door width 3.1m less 2 tracks at 0.025m each = opening width of 3.050m).

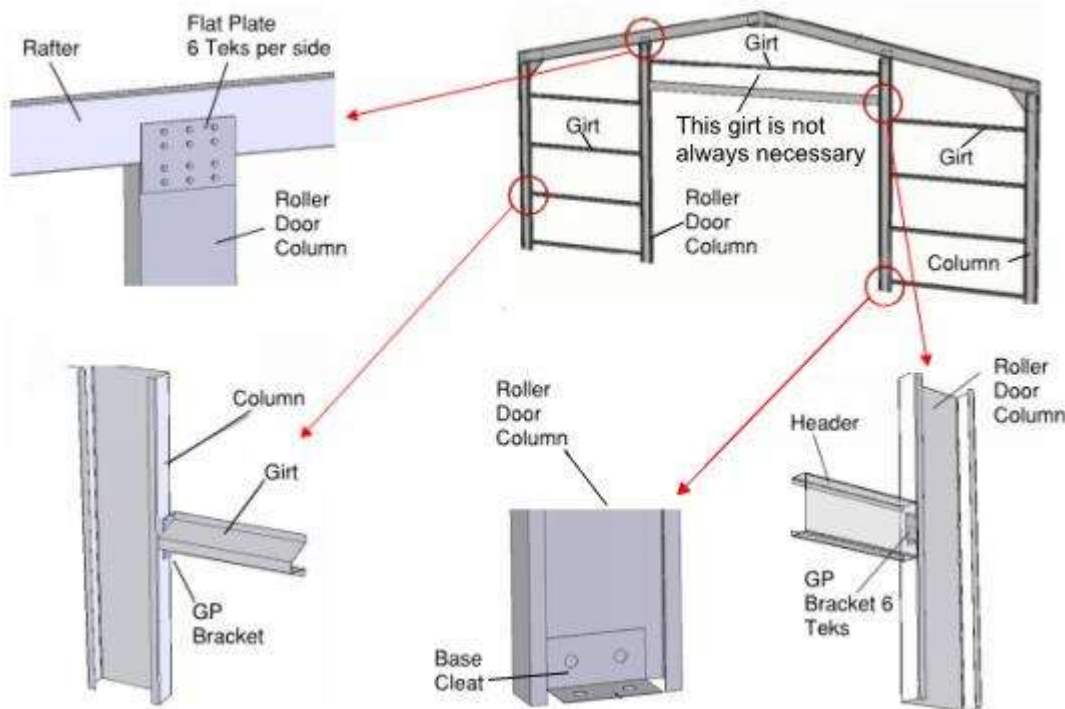
Measure and mark where the **Roller Door Mullions** will be fixed on the concrete, then fix the **Base Cleats** to the **Roller Door Mullions** using the **Purlin Bolts**.

Stand the **Roller Door Mullions** against the **End Rafter** and mark them to be cut flush with the bottom edge of the **End Rafter**. Once cut, fix the **Flat Plate** supplied to the **Roller Door Mullions** using two **Frame Screws**, then drill and fix two **Purlin Bolts**.

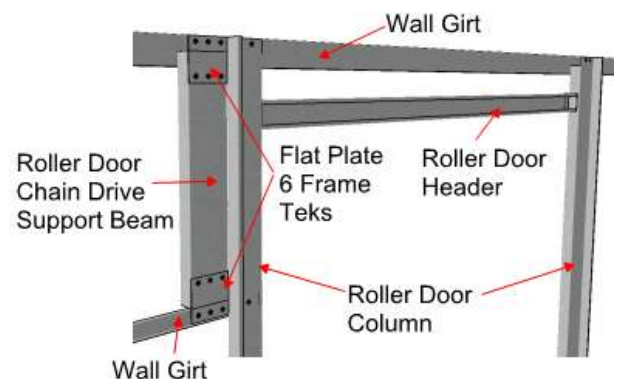
Place the **Roller Door Mullions** in the correct position and fastened to the **End Rafter** using the **2 Frame Screws** and two Purlin Bolts. Then secure mullions to the concrete with **Sleeve Anchors**.

The **Roller Door Header Beams** will be fixed using **General Purpose Brackets**. Measure and mark the **Roller Door Mullions** at the same height as the **Roller Door**. For example, if the **Roller Door** is 2100mm high, the **Roller Door Header** will be set at 2100mm. Screw the **GP Brackets** to the top of these marks using two frame screws and then fix the Roller Door Header to the brackets using two **Frame Screws** into each side of the **GP Bracket**.

Hang the roller doors as per the manufacturer's instructions provided with the doors. These can be found inside the door wrappings.

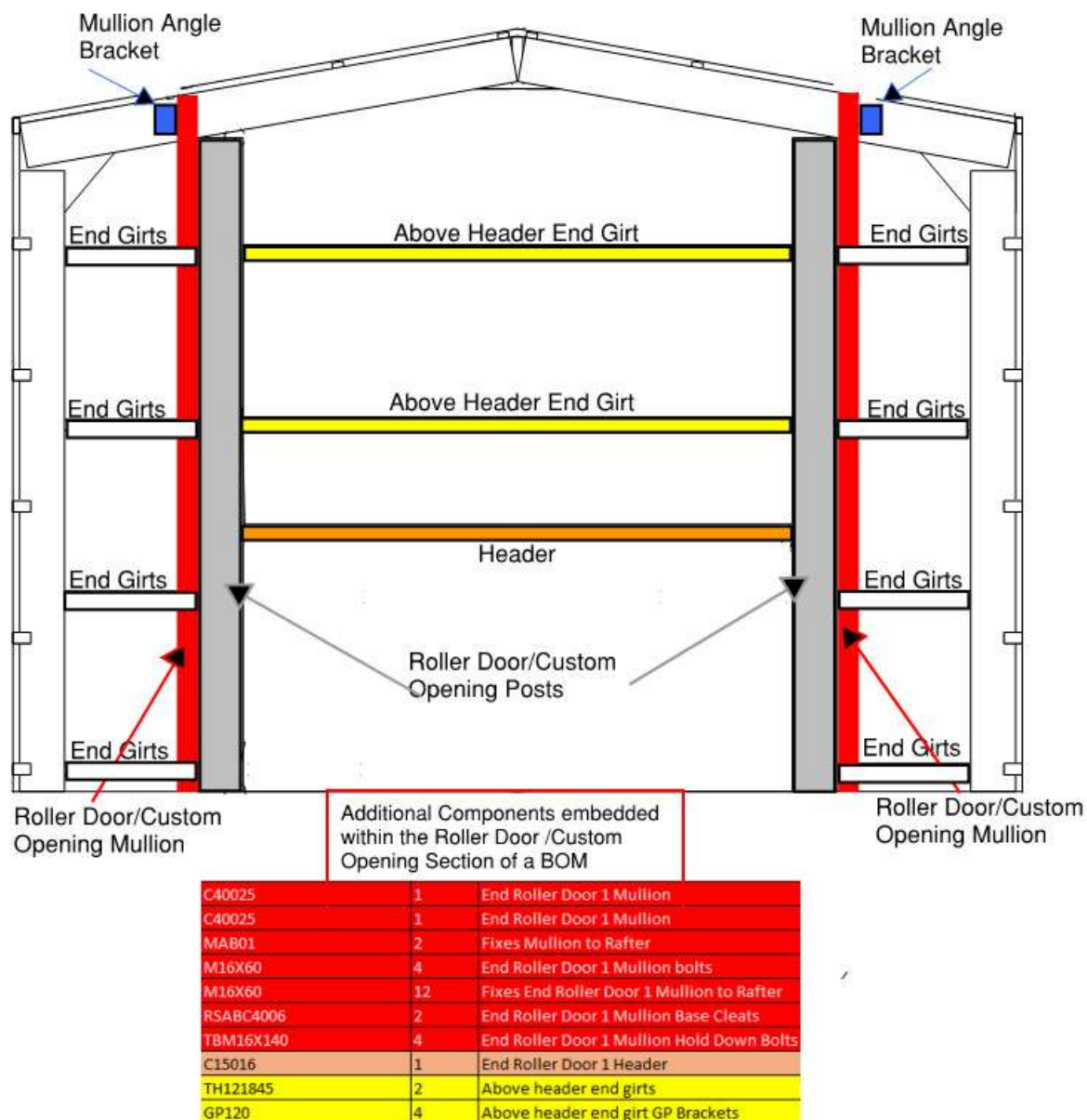


Note - Roller doors supplied with planetary gearing require the placement of a **Chain Drive Support Beam**. This beam is fixed to the Girt above the door and the Girt below it using flat plates. Fix the **Flat Plates** to the **Chain Drive Support Beam** and the Girts using **6 Frame Screws** per connection.



Revised End Wall Advice from January 2017

Read this in conjunction with the Roller door/Custom Opening End Wall Page and End Wall Mullion page of Manex



When you have an End Wall Roller Door or Custom Opening you will have been supplied with some additional components in the relevant section of the Bill of Materials.

These are highlighted above. Each Roller door/Custom Opening post in an end wall now comes with an accompanying **Roll Door/Custom Opening mullion**. This is fixed as close as feasible to the **opening post** and the **end wall girts**. Use the **Mullion Angle Brackets** and **Base Cleats** supplied to achieve this

CSB
Capital Steel Buildings



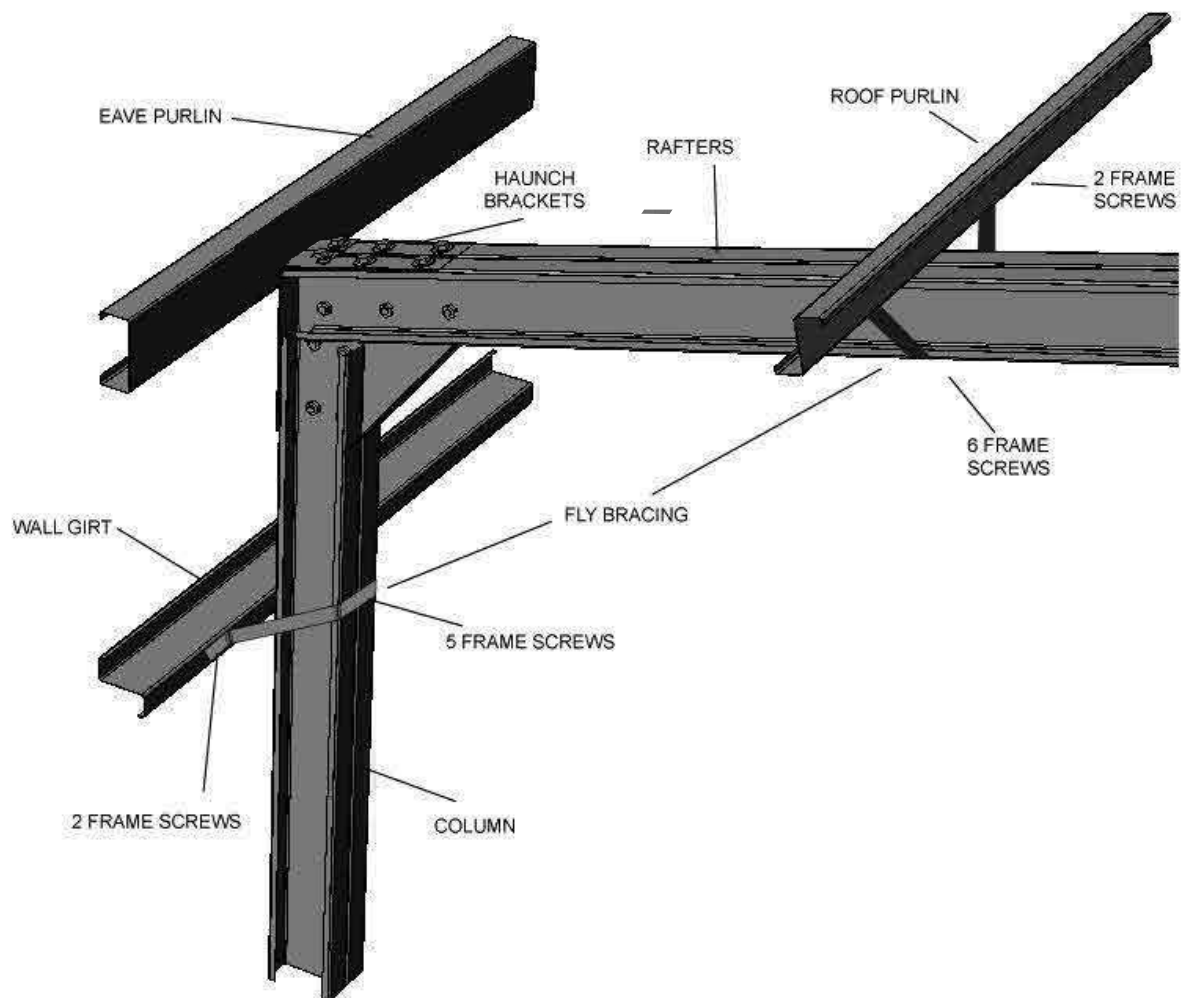
Fly Bracing

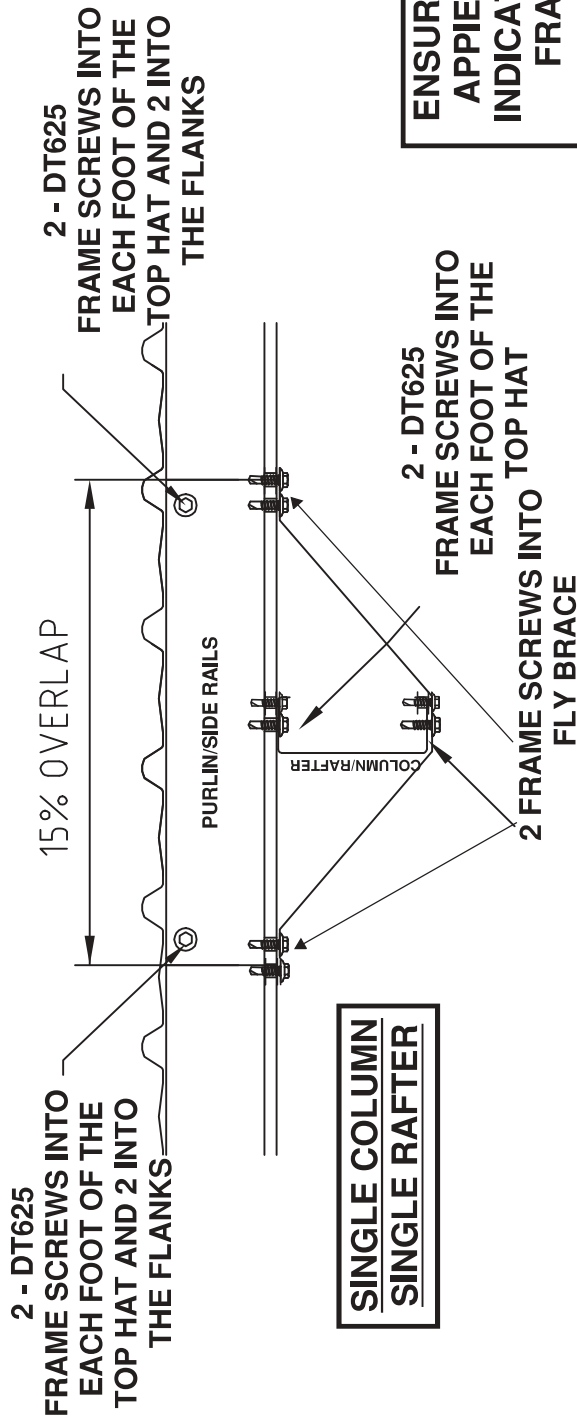
Refer to the engineering specifications to determine where fly bracing is required. As a rule general rule no Rafter or Column should span further than 3m without fly bracing.

Fly bracing in the roof attaches to the Roof Purlin and wraps the Rafter to stop it twisting under extreme load. It is then secured on either side of the rafter with two Frame Tek's on either side.

Fly bracing in the walls is attached to the Wall Girt and wrap is around the Column. It is then secured on either side of the column with two Frame Tek's on either side.

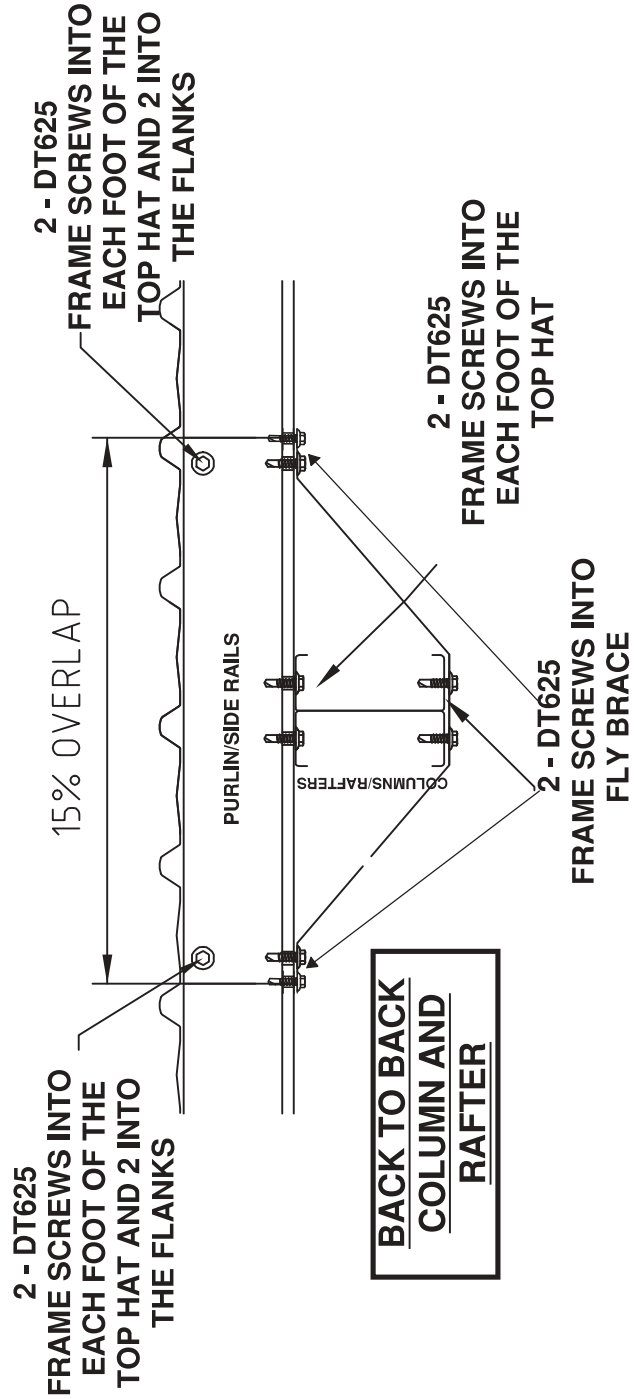
The Fly braces are supplied as individual pieces. However if you require more they can be made from cutting the desired length from the roll of Strap Bracing supplied.





**ENSURE FLY BRACING IS
APPLIED AT LOCATIONS
INDICATED IN THE CADex
FRAME DRAWINGS**

**RIGID FLY
BRACING**



FLY BRACING

Rigid Fly Bracing

Rigid Fly Bracing should not to be confused with Fly Bracing.

Fly bracing is used on intermediate portal frames only whereas Rigid Fly Bracing (RFB) is only used at gable portal frames.

The object of Rigid Fly Bracing is to provide a solid restraint between side girts and columns, roof purlins and rafters, and end girts and mullions.

A rigid fly brace varies with the size of columns, rafters and mullions specified in the kit but basically looks like this

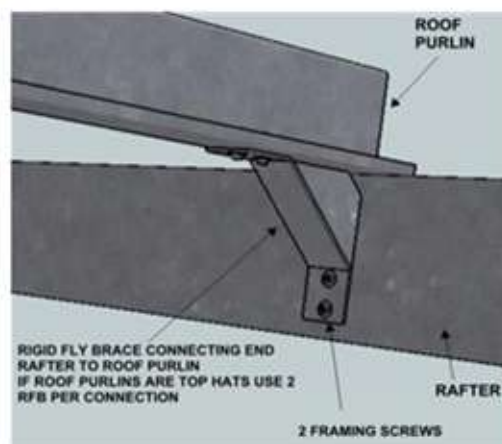
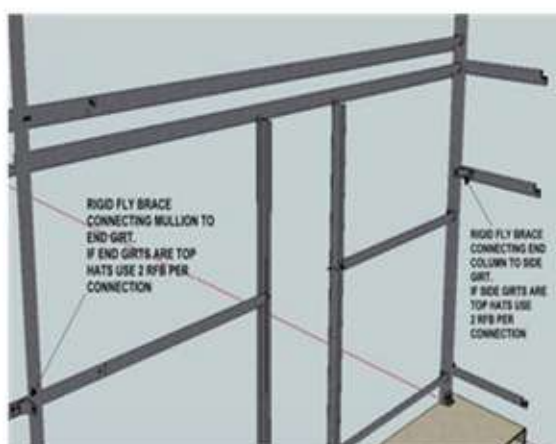
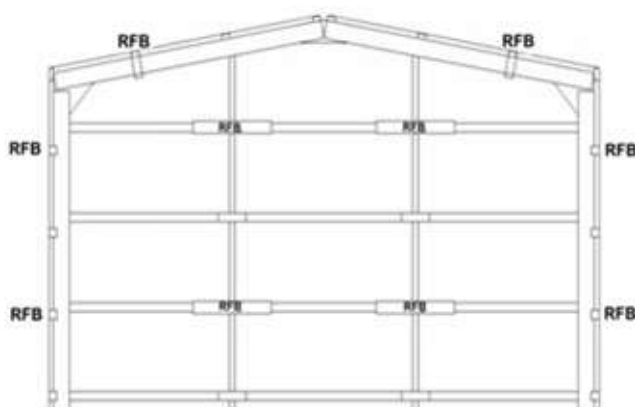


RFBs are fixed with 2 framing screws at either end .

If your purlins and girts are top hats: **2** RFB s are required per junction

If your purlins and girts are zeds only **1** RFB is required per junction

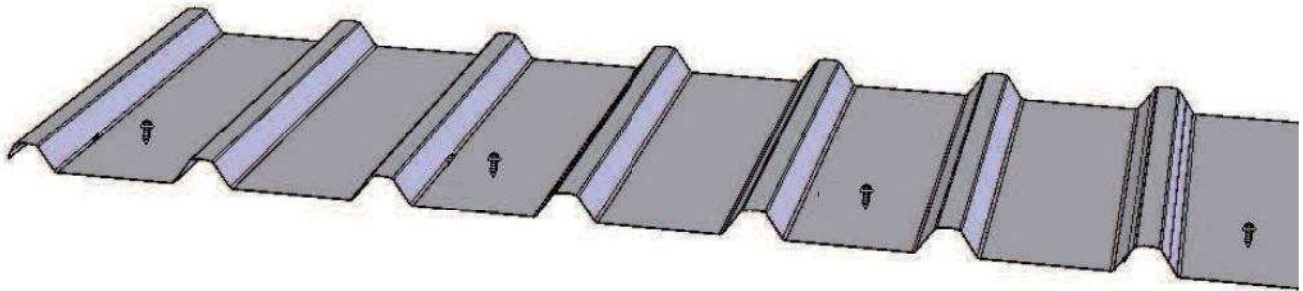
To determine the correct location of the RFBs refer to the End Frame drawings supplied by your distributor eg



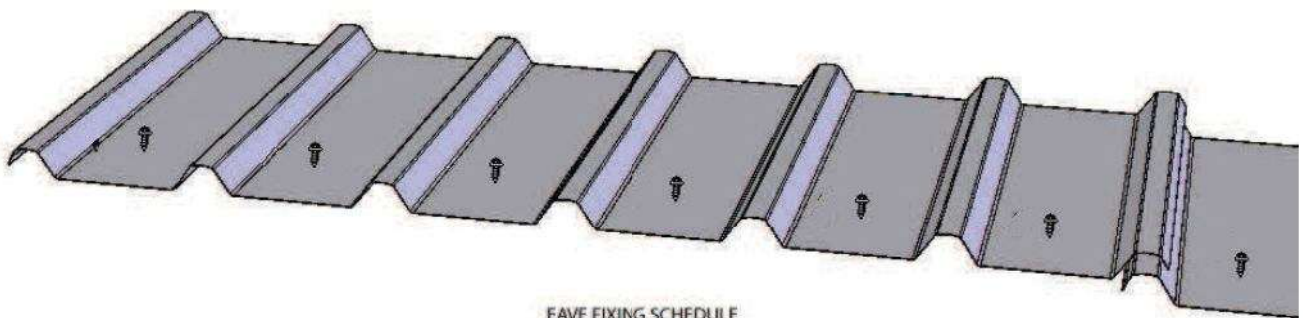
Roofing AS30/1000

If **Skylights** are to be installed, determine the position of the skylights prior to installing the **Roof Sheets**.

Position the first **Roof Sheet** on the **Roof Purlins** with the male edge (Without syphon groove) facing the front of the building. The sheet should extend beyond the **Eave Purlin** and half way into the **Gutter**.



INTERMEDIATE FIXING SCHEDULE



EAVE FIXING SCHEDULE

Align the **Roof Sheet** in line with the edge of the Roof Purlin, then secure the sheet with a single **Roof Screw** through the valley into the apex positioned **Purlin**.

Measure how far the **Roof Sheet** extends past the apex positioned **Purlin**. Pivot the Sheet on the single **Roof Screw** until the overhang on each side is equal, then secure the **Roof Sheet** with a second **Roof Screw**.

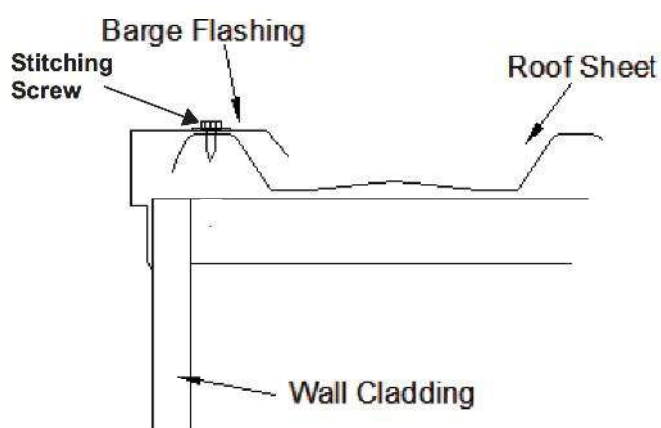
Overlap the second **Roof Sheet** and align the two **Roof Sheets** at the apex. Fasten a single **Roof Screw** into the apex positioned Purlin through the over lapped sheets. Pivot the sheet on the single **Roof Screw** until the overhang on each side is equal, then secure the sheet with a second Roof Screw. Initially, only secure the **Gutter** end of the sheets with a single **Roof Screw** through the overlap into the **Eave Purlin** or the bottom row of **Roof Purlins**.

Continue this process until the final sheet is secure. The final sheet may need to be cut with a pair of snips or a nibbler if it extends beyond the length of the roof or overlapped further over the previous **Roof Sheet** to obtain the correct coverage of the roof area.

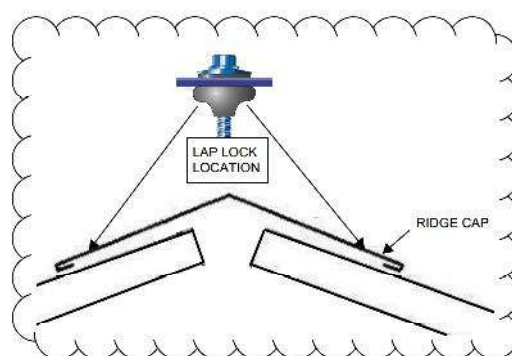
Once all the **Roof Sheets** are secure, mark the location of the **Roof Purlins** using chalk line. Insert the **Roof Screws** as per the diagram.

Roofing Skylights (If used)

Once the position of the **Skylights** is determined, start sheeting the roof using the normal installation process. When the position for the skylight has been reached, install them using the screw pattern used at the eave of the building as shown above. Ensure that the skylight is installed over the roof cladding on both sides, not over one side and under the other like the **Roof Cladding**.

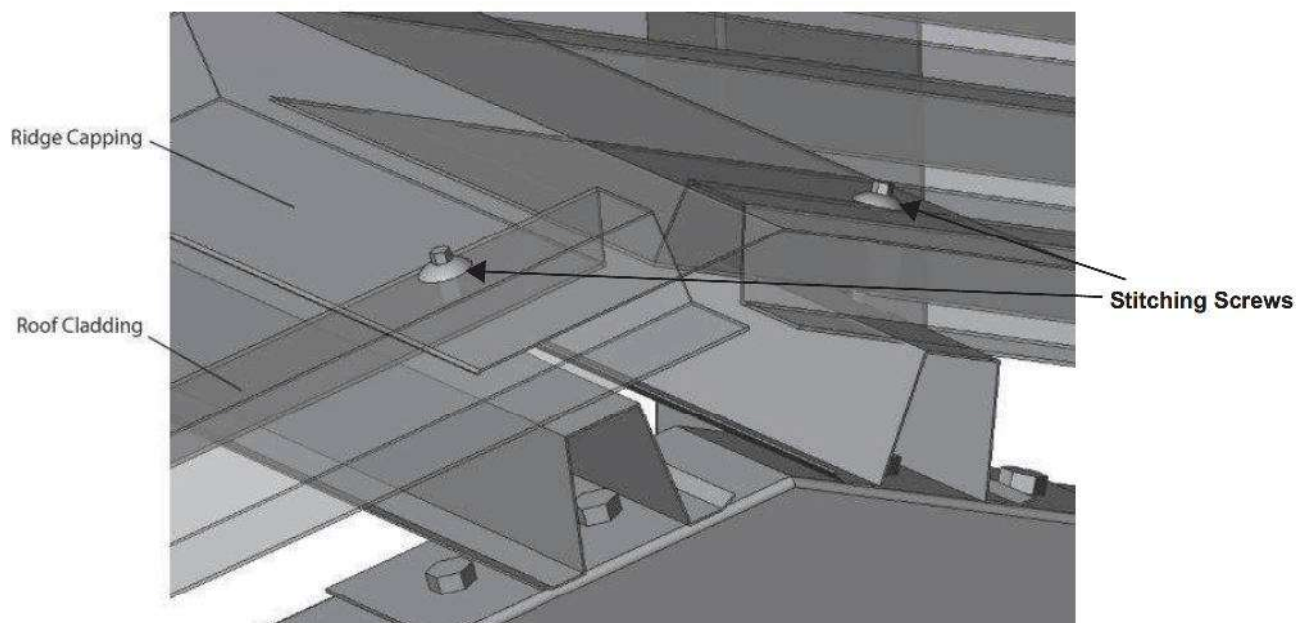
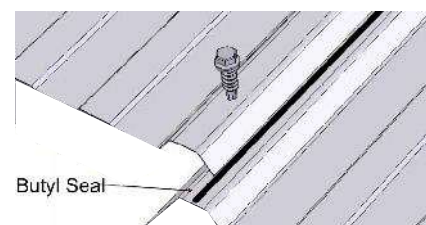


Use the LAP LOCK fixings supplied to stitch the Ridge Cap to the Skylights



Butyl Lap Tape

If supplied apply to each over lap



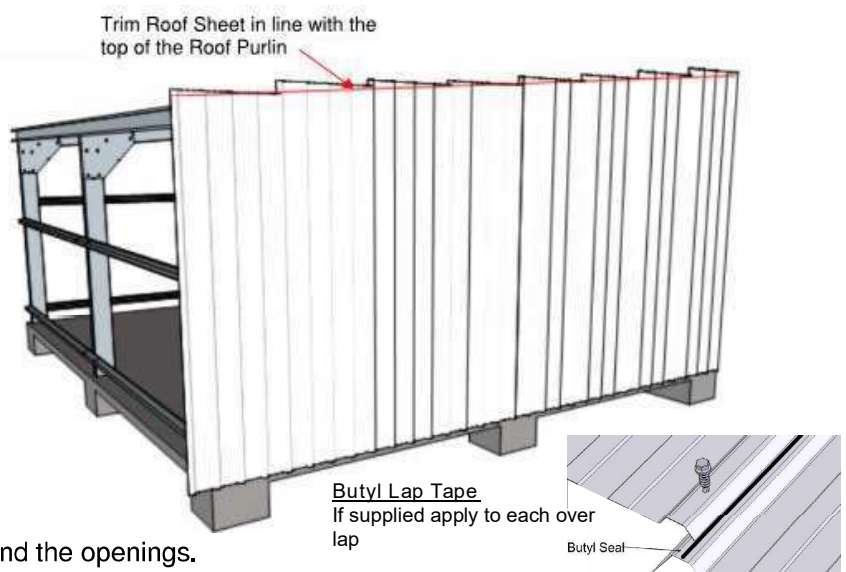
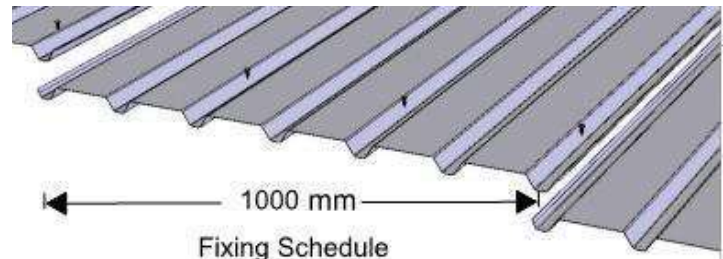
Wall Cladding – AS1000-24

Start the first **Side Wall Sheet** on the side wall flush with the edge of the **Eave Purlin**

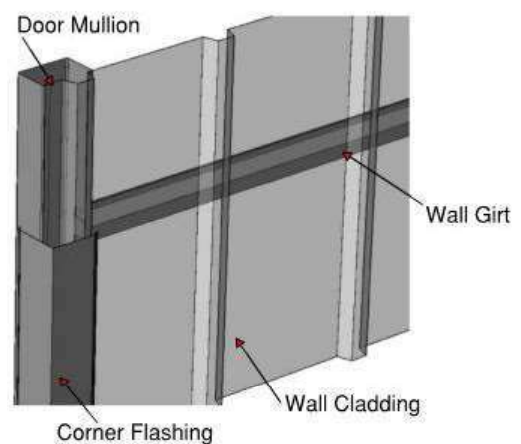
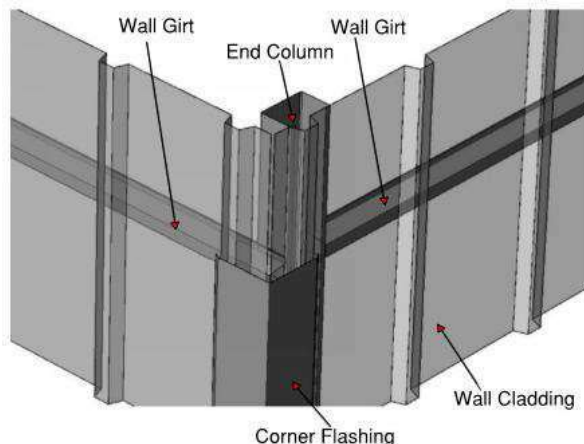
Fix a single **Wall Screw** into the bottom **Side Wall Girt** through the bottom right hand corner of the sheet. Pivot the **Side Wall Sheet** on this **Wall Screw** until level, and then fix a second **Wall Screw** into the middle wall **Side Wall Girt** to hold the sheet. Screw the sheet off completely, and then repeat the process until the wall is fully sheeted. The final sheet may need to be cut with a pair of snips or a nibbler if it extends beyond the length of the wall.

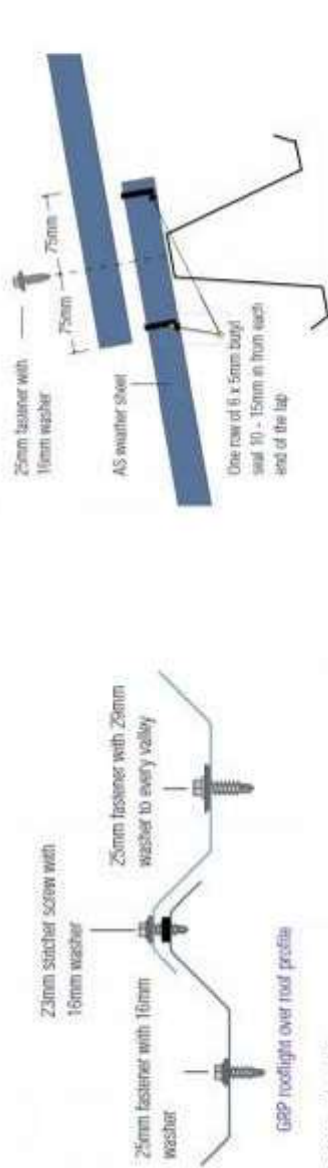
REMEMBER: The wall sheets are supplied to overlap the concrete by 50mm to seal the building. Once both side walls are sheeted, the gable ends may be sheeted.

Align the bottom of the first **End Wall Sheet** with the bottom of the **Side Wall Sheet** to set the height. Use the same method as the side walls to sheet the ends once the height has been set. Once the **End Wall Sheets** have been fastened to the **End Wall Girts**, use a chalk line to mark just above the **End Rafter** where the top of the sheets need to be cut. Once cut, the **End Wall Sheets** can be screwed to the top edge of the **End Rafter**. At **Roller Doors** and **PA Doors**, trim the cladding around the openings.



For cutting thin metal on site, we recommend using either snips or a nibbler. Cut materials over the ground and not over other materials. Sweep all metallic swarf and other debris at the end of each day and at the completion of the installation. Failure to do so can lead to surface staining where the metal particles rust.





Laps

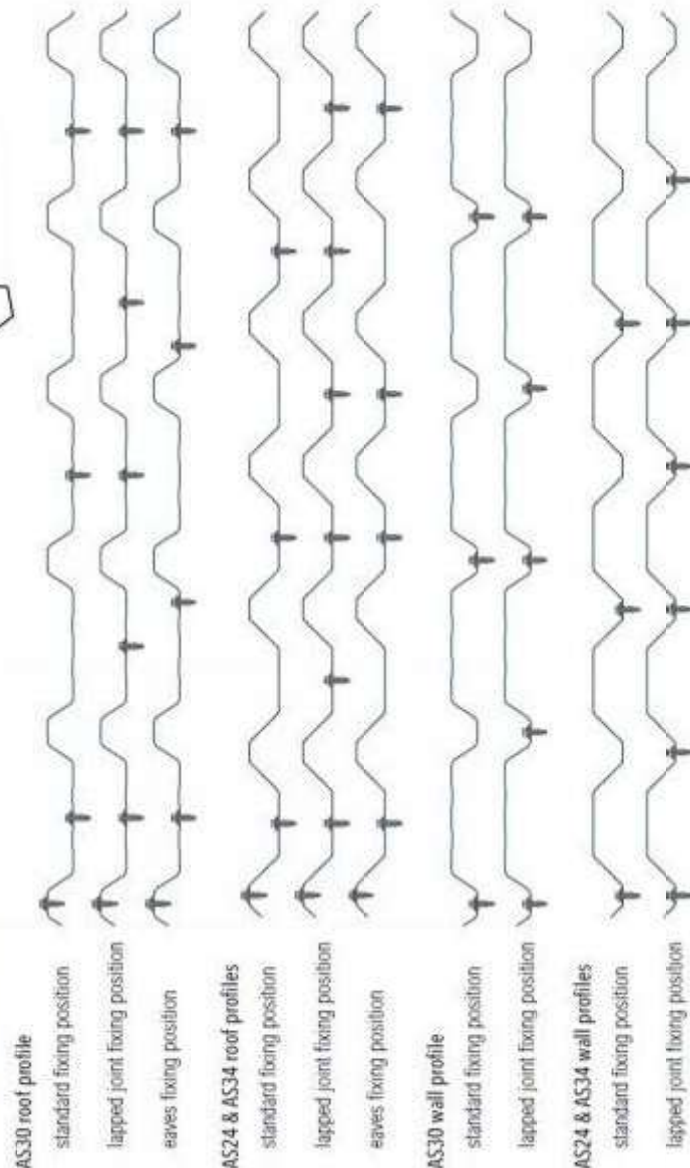
Side laps between sheets are formed by lapping the female side of one sheet over the male crown of the adjacent sheet. The exposed edge of the lap should face away from the prevailing wind.

Side laps of weather sheets should be sealed with butyl sealant strip 6mm wide by 5mm high. Weather sheet side laps on roofs should be stitched with 23mm long self drilling screws at 450mm centres.

End laps are required in roofs with two or more tiers of sheets. End laps are formed by lapping the upper weather sheet 150mm over the lower sheet. End laps of weather sheets should be sealed with two runs of butyl sealant strip 6mm wide by 5mm high applied 10 - 15mm from each end of the lap and fixed with 25mm fasteners.

Fixings

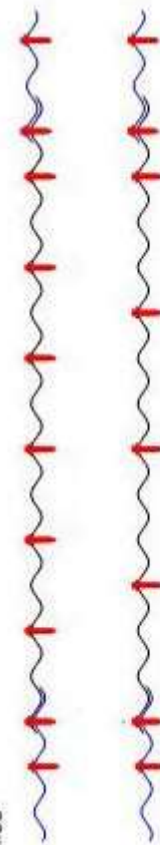
Fixings for roof profiles provide restraint against wind uplift forces; those for wall profiles provide restraint and support. Whilst profiles may be fixed through valleys or crowns, Steadmans recommend valley fixing: accurate fixing is easier to achieve, loads on the fixings are smaller, the fixings are less likely to distort the profile, and better compression of the sealant is achieved at end laps.



AS13/3 Roof and Wall Profiles

Standard Fixing Position

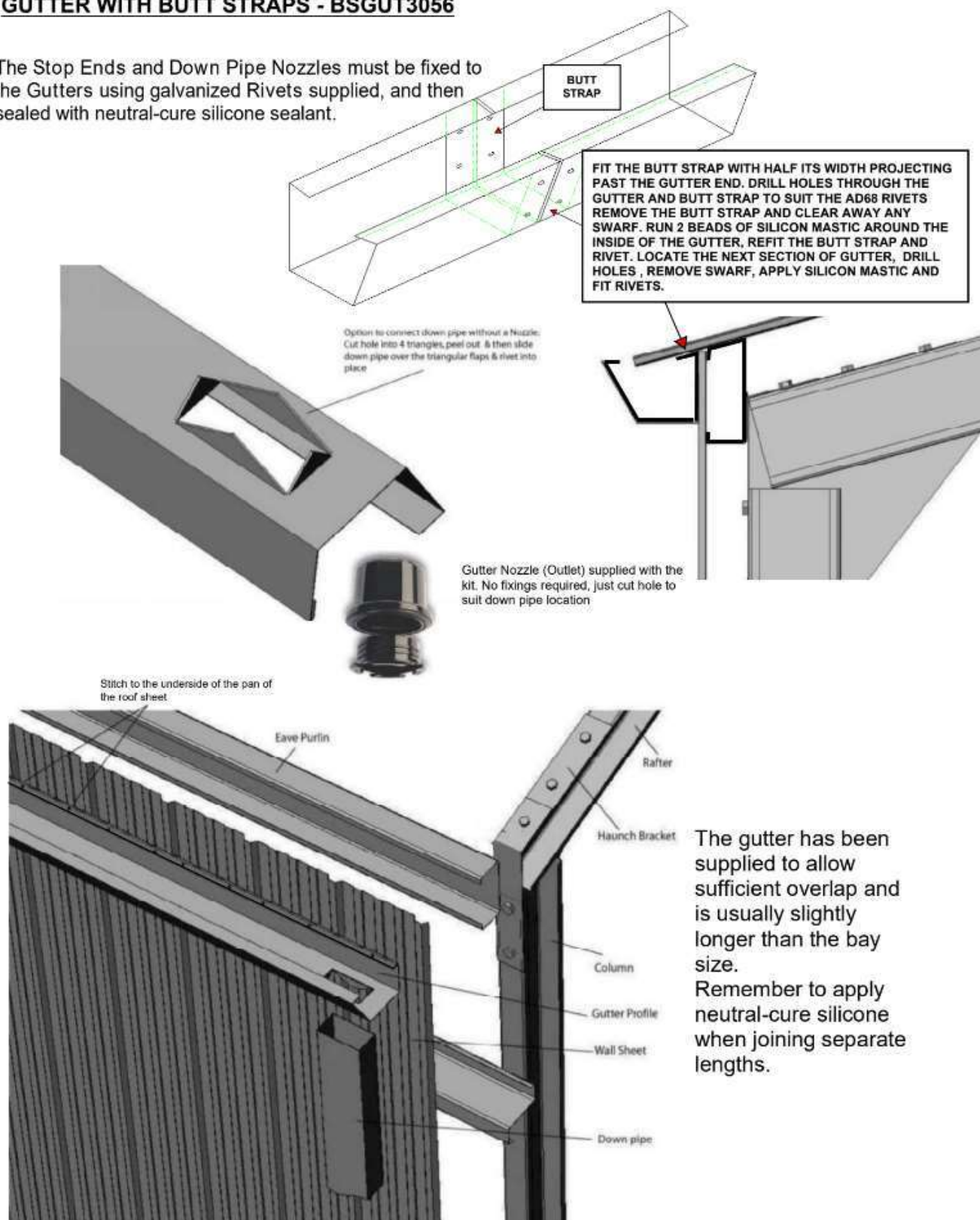
Ridge Eave and end lap fixing positions



SINGLE SKIN CLADDING FIXING FREQUENCY

GUTTER WITH BUTT STRAPS - BSGUT3056

The Stop Ends and Down Pipe Nozzles must be fixed to the Gutters using galvanized Rivets supplied, and then sealed with neutral-cure silicone sealant.

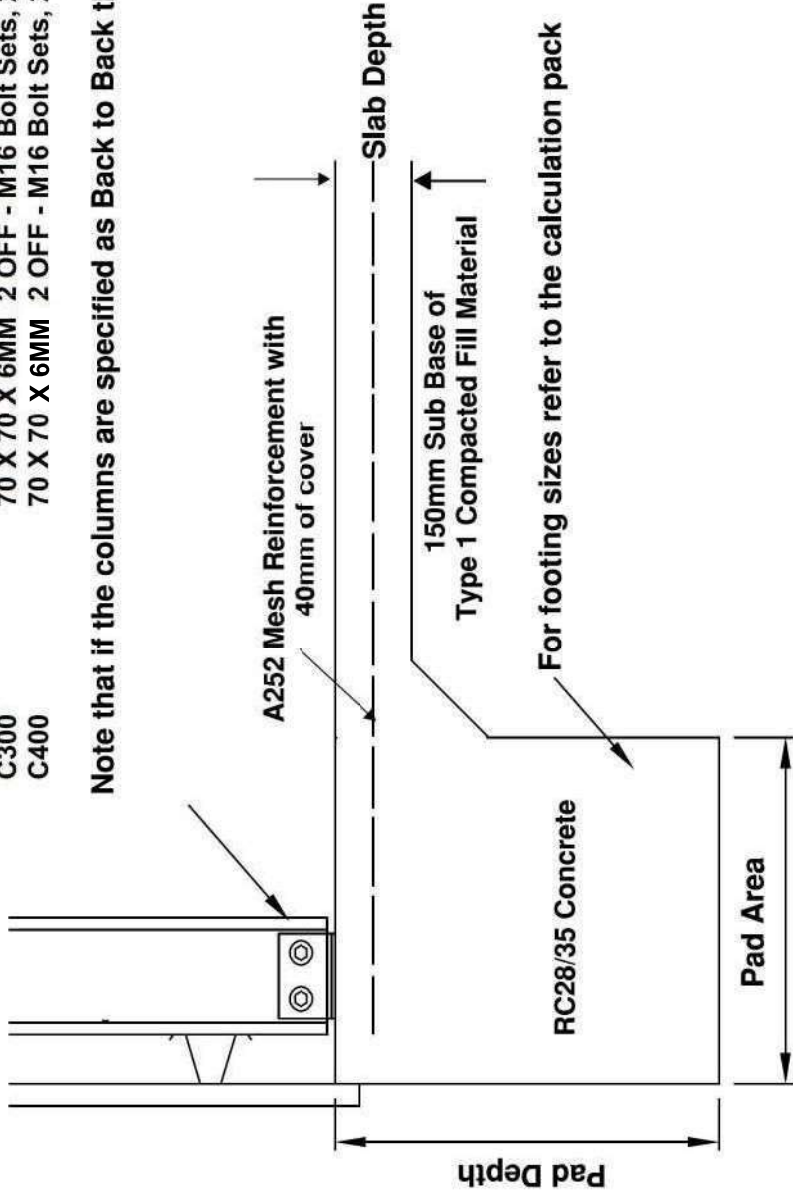


The gutter has been supplied to allow sufficient overlap and is usually slightly longer than the bay size. Remember to apply neutral-cure silicone when joining separate lengths.

Cee Section Size Base Cleat Size Anchors

C150	75 X 50 X 3MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C200	75 X 65 X 3MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C250	70 X 70 X 6MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C300	70 X 70 X 6MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C400	70 X 70 X 6MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS

Note that if the columns are specified as Back to Back then 2 Base cleats are required



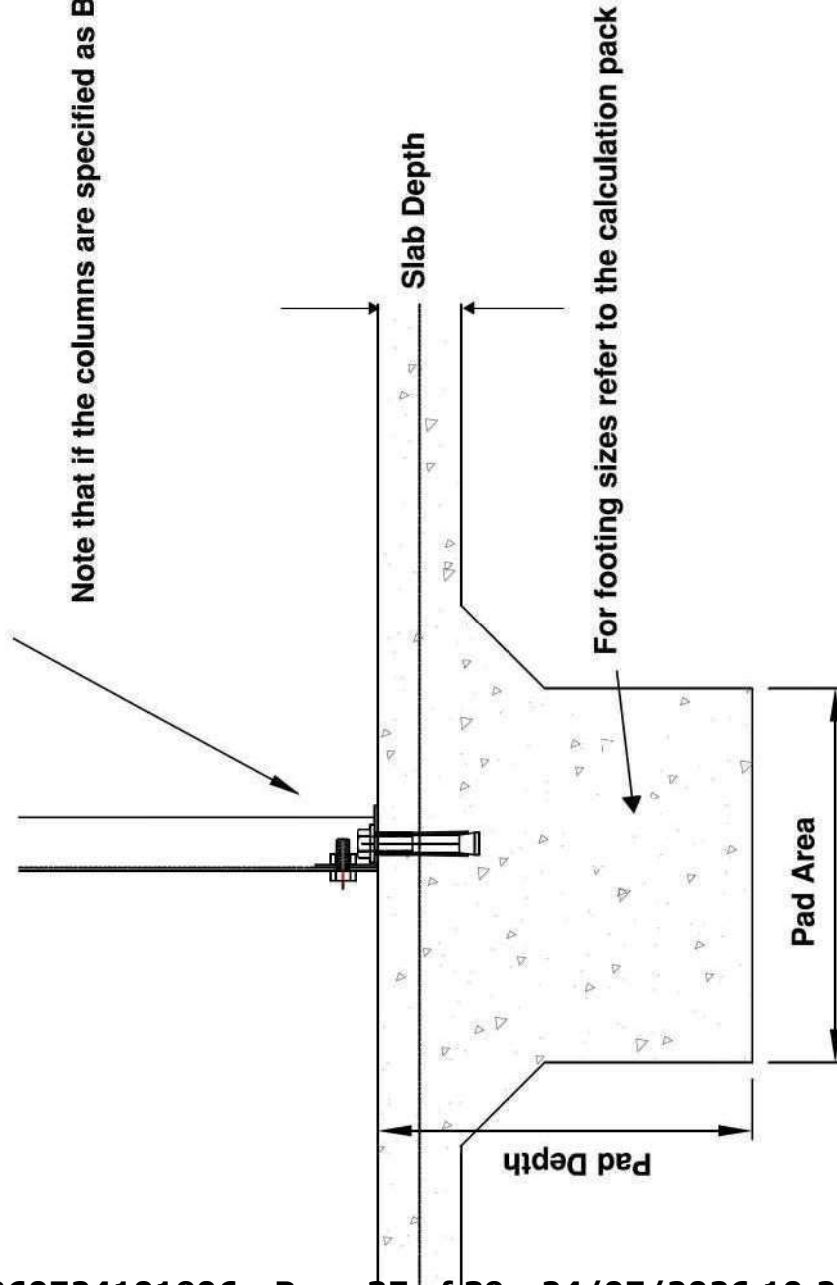
NOTE: THE DESIGN MAY CALL FOR
MOMENT RESISTING BASE CLEATS OR
OUR ALTERNATIVE BASE CLEAT (ABC)
FOR ANCHORING THE PORTALS.
CHECK THE BILL OF MATERIALS FOR
DETAILS

TYPICAL SLAB ARRANGEMENT

Cee Section Size Base Cleat Size Anchors

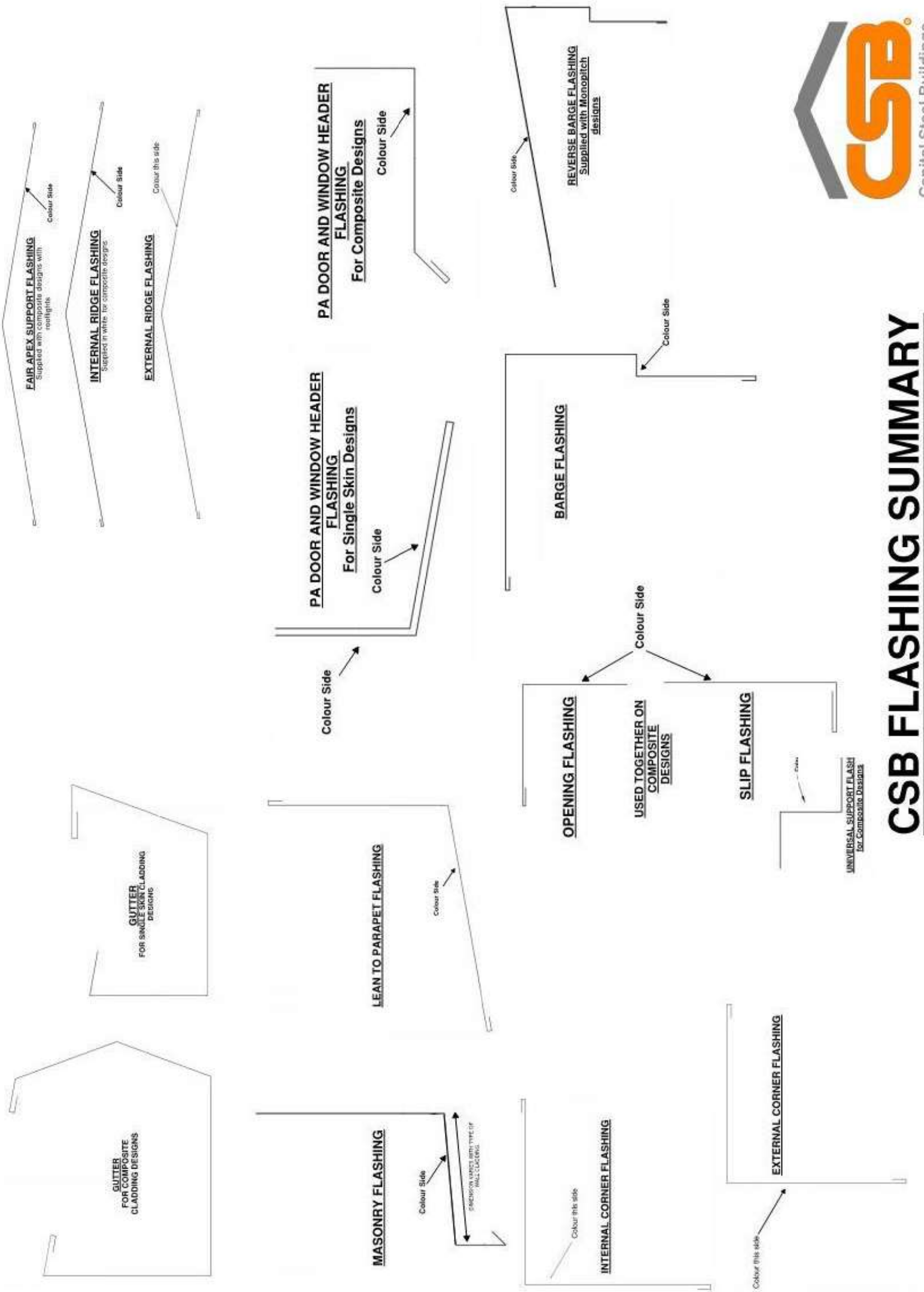
C150	75 X 50 X 3MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C200	75 X 65 X 3MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
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C300	70 X 70 X 6MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS
C400	70 X 70 X 6MM	2 OFF - M16 Bolt Sets, 2 off - HSB16X120 EXCALIBUR SCREWBOLTS

Note that if the columns are specified as Back to Back then 2 Base cleats are required



NOTE: THE DESIGN MAY CALL FOR
MOMENT RESISTING BASE CLEATS OR
OUR ALTERNATIVE BASE CLEAT (ABC)
FOR ANCHORING THE PORTALS.
CHECK THE BILL OF MATERIALS FOR
DETAILS

TYPICAL SLAB ARRANGEMENT



CSB FLASHING SUMMARY

Approved Body No. 1224

Certificate of Conformity of the Factory Production Control

1224-CPR-0615

In compliance with Construction Products Regulation 2011 (retained EU law EUR 2011/305) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020, this certificate applies to the Construction Product

Structural Steel Components

Intended for use in Load Bearing Applications. Product characteristics as follows:

Execution Class	Up to EXC 2 (Fabrication is Subcontracted to UKCA certified Fabricators)
Declaration Method	Design Methods 3a & 3b of EN 1090-1
Welding Process(es)	N/A (Fabrication subcontracted)
Parent Metal(s)	N/A (Fabrication subcontracted)
Parent Metals Group(s) & Sub Group(s)	N/A (Fabrication subcontracted)
Responsible Welding Co-ordinator	N/A (Fabrication subcontracted)

Placed on the Market under the Name of

Capital Steel Group Ltd
11A , Drakemire
Dalry
Ayrshire, KA24 5JD

and produced in the manufacturing plant

Capital Steel Group Ltd, 11A, Drakemire, Dalry, Ayrshire, KA24 5JD

This certificate attests that all provisions concerning the Assessment and Verification of Constancy of Performance described in Annex ZA of the standard(s)

EN 1090-1:2009+A1:2011 Execution Class 2

Under System 2+ are applied and that the Factory Production Control is assessed to be in conformity with the applicable requirements

This certificate was first issued on 1 January 2021 and will remain valid as long as neither the designated standard, the Construction Product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, or unless suspended or withdrawn by the Approved Factory Production Control Certification Body.

Valid to: **3 August 2026**



Executive Vice President Fire & Building Products
Element Materials Technology

Warringtonfire Testing and Certification Limited t/a BM TRADA, Chiltern House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK
Registered Office: Warringtonfire Testing and Certification Limited, 10 Lower Grosvenor Place, London, SW1W 0EN, UK.
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