



# INSTALLATION GUIDE & TECHNICAL OVERVIEW

**Ultras**ky<sup>®</sup>  
ROOF by Ultraframe

**ULTRASPAN**

JAN 2018 | V4

**Thank you for choosing the Ultraspan product.**

**This guide is designed to make fitting as straightforward as possible.**

The Ultraspan structural goalpost has been designed to help you maintain the designer look of your installation with uninterrupted sight lines and to let you span up to 6.5m\* for bi-fold and sliding doors. The Ultraspan consists of 2 or 3 vertical aluminium posts and horizontal spanning beam, designed to be completely hidden within super-insulated columns or brick columns and in the Internal Insulated pelmet system within the Ultrasky Roof.

## SPECIFICATION

- To be used in conjunction with Ultrasky roofing systems only.
- Provides clear span up to 6.5m\* and lateral stability to an open sided structure.  
To provide lateral restraint the correct foundation detail is required.
- Works in conjunction with bottom running bi-fold doors, NOT top hung.
- The corner post has 3 optional claddings.

\*The span charts on pages 3 & 4 are for guidance only. They cover the majority of the U.K. (excluding snow @ 0.8kN/m<sup>2</sup> found in the North East of England and Scotland). Always check with Ultraframe.

1. Aluminium vertical post.
2. Aluminium horizontal beam.
3. Protective adhesive expanding foam tape.
4. Aluminium L-shaped header bracket.
5. Cornice.
6. Modesty panel.
7. Internal fascia factory cut to fit.
8. Protective adhesive glazing packer.



## GENERAL POINTS

Care should be taken when handling components that are seen by the homeowner, as surfaces may be scratched if not handled with care (see pages 9 & 10). Choose a suitable area for unpacking the components and always check them before fitting. Any claims for missing or damaged parts are only accepted in line with our standard terms and conditions of sale.

### Health & safety

Site safety is particularly important. The installation company shall be responsible for the safety of all of the fitting team, the customer and members of the public. The surveyor should have carried out a risk assessment to reduce risk on site and this should have been discussed with you prior to starting.

Please use safe working platforms and ladders that comply with BS EN 131. Always use equipment in line with manufacturers recommendations. Personal Protective Equipment - such as goggles, mask and ear defenders - should be used.

Careful consideration should be given to the safe disposal of all packaging – Ultraspan packaging is predominantly made from recycled materials and can be readily recycled.

### Technical Support

Tel: **01200 452 918** or email [techsupport@ultraframe.co.uk](mailto:techsupport@ultraframe.co.uk)

# ULTRASPAN TECHNICAL NOTES

Ultraspan is a goal post support integrated into the Ultrasky Roof to allow large opening to be created for bi-fold doors. The support beam is hidden within the internal pelmet so that the support structure is invisible within the finished room.

Bi-fold doors are intolerant to the external frame header rail deflecting more than 5mm, more than this can cause the door to mal-function.

This small deflection limit means for large spans with a conventional goal post, large steel sections are required, these are difficult to disguise and the beam becomes very heavy to handle on site. The Ultraspan has been designed in such a way that the deflection of the beam does not impact on the header rail of the bi-fold door. There is a deflection gap built in as the diagram on page 5 shows.

## Design Considerations

- The span charts on pages 3 & 4 are for guidance only. They cover the majority of the U.K. (excluding snow @ 0.8kN/m<sup>2</sup> found in the North East of England and Scotland). Always check with Ultraframe.
- Always specify the site postcode.
- Always consider the frame layout under the roof. Ultraframe are not responsible for the supporting frames.
- In some instances the eaves beam may not be fixed to the Ultraspan beam i.e. Double Hipped Edwardians exceeding 7m wide. Ultraframe will contact you to discuss.

## Support posts

The ends of the beam are supported by a 70 x 70mm post\*. The external face of the post is in-line with the internal frame line of the roof/windows. This post can be finished in a number of different ways and can sit inline or at the corner:-

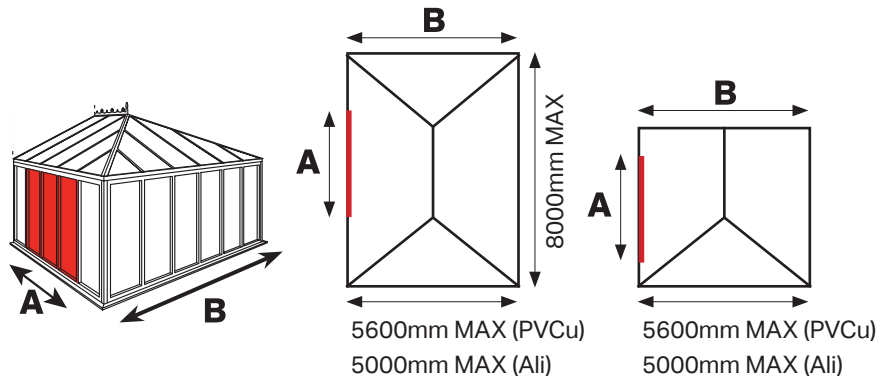
1. The post can be run down inside a super-insulated column.
2. Incorporated inside a brick pier (cavity width needs to be greater than 100mm to effectively insulate).
3. Fit to a large 90° corner post (externally cladded with PVCu). See page 7.

\*100mm x 100mm post used when bi-folds connect on 90° corner.

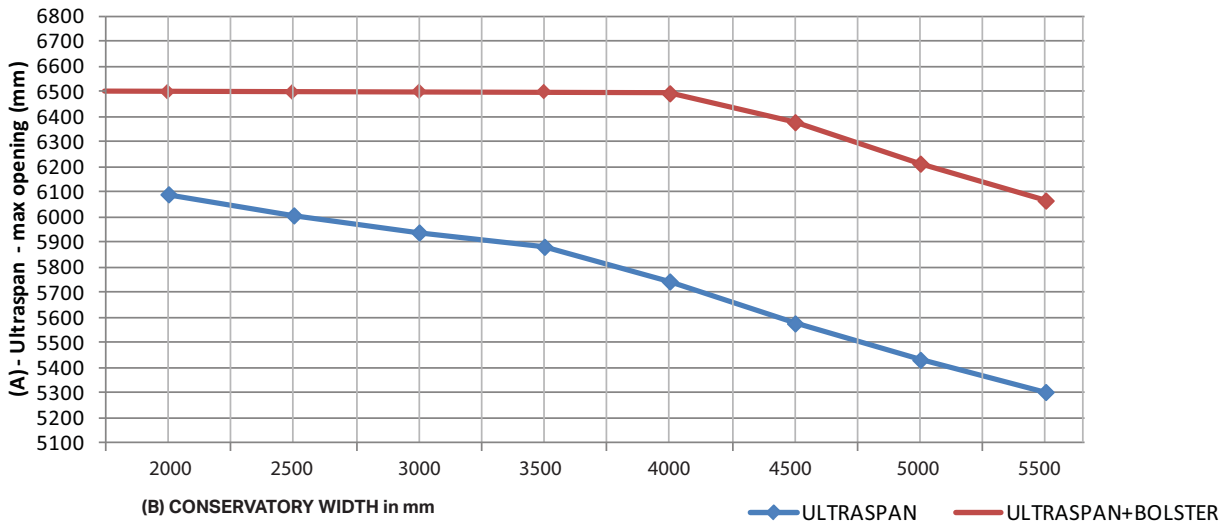
**Structural Performance**

Sizes quoted are physical maximum length of horizontal beam (excluding posts).

Ultrasky Roof maximum internal frames sizes (excluding box gutter) 8000mm x 5600mm (PVCu internally clad glazing bars), 8000 x 5000mm (aluminium internally clad glazing bars).

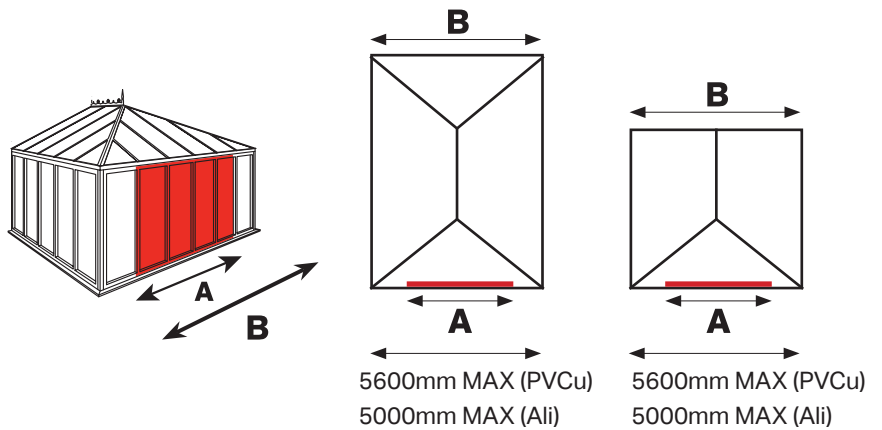


**Ultraspanspan chart - ULTRASKY ROOF ONLY - Standard load - Glass (4/-/4) - Wind 0.4kN/m<sup>2</sup> - Snow 0.6kN/m<sup>2</sup>**

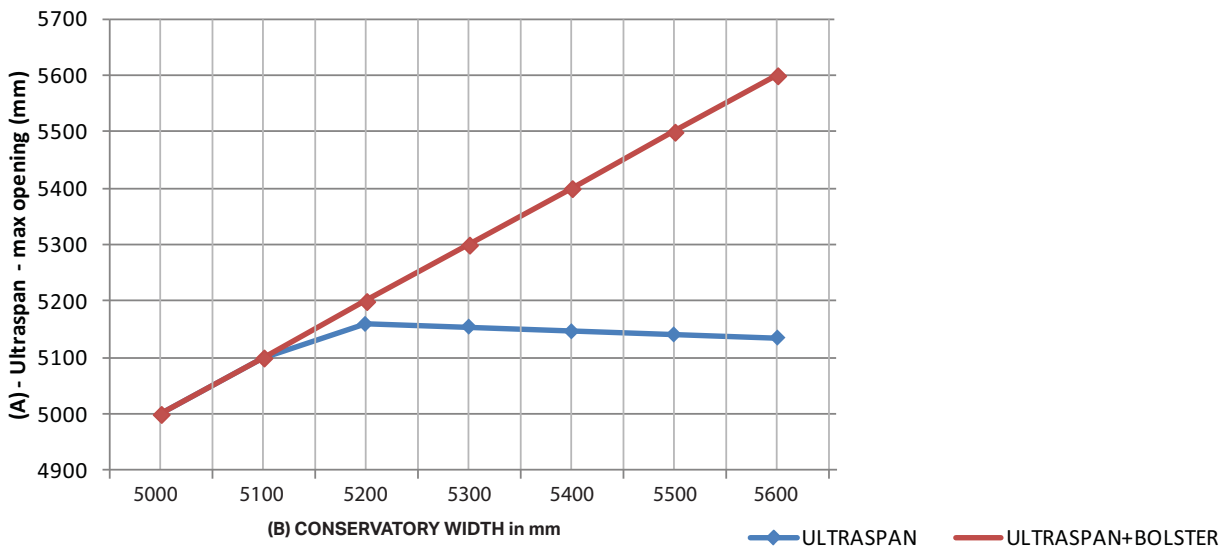


**Structural Performance**

Sizes quoted are physical maximum length of beam (excluding posts).

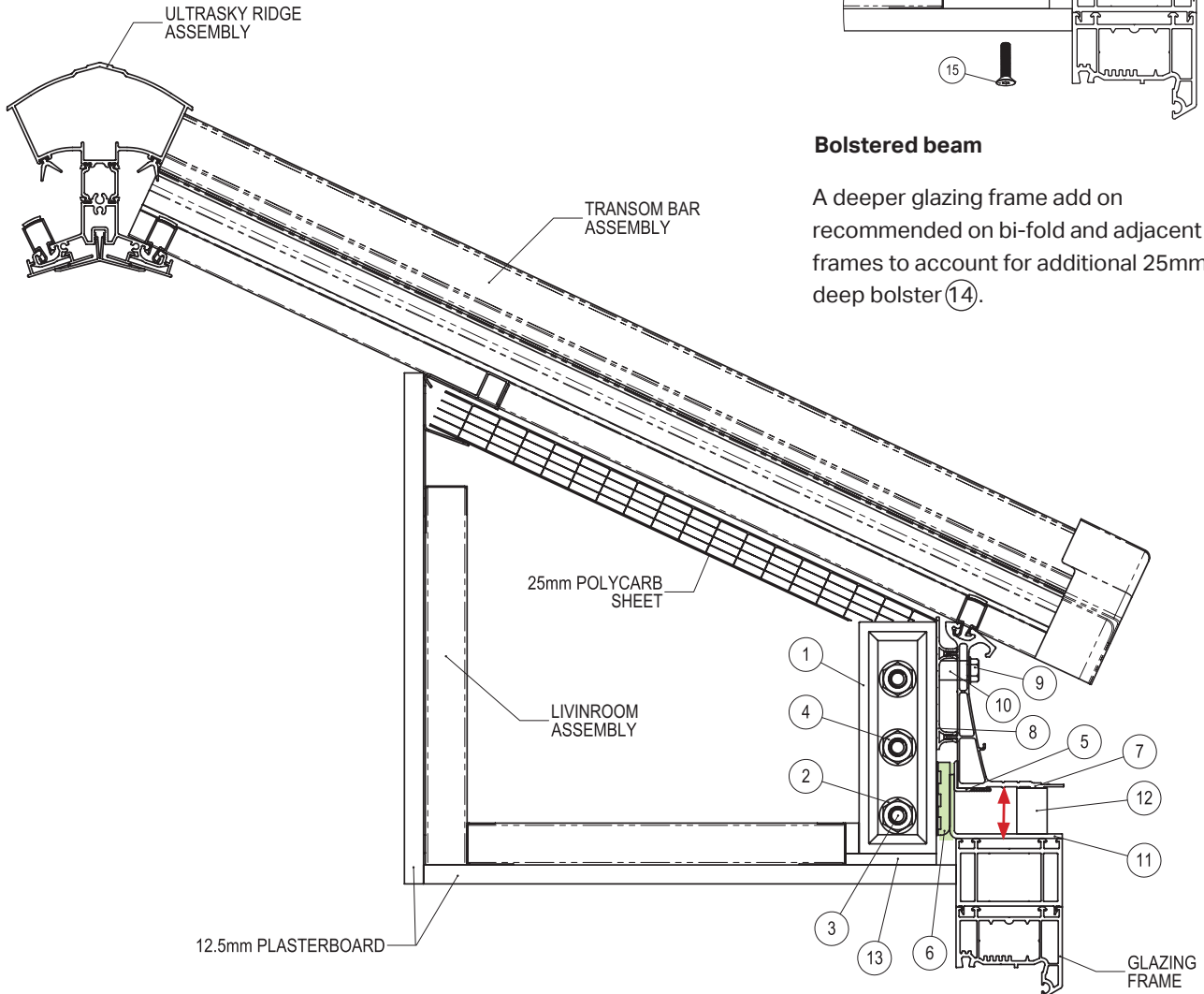


**Ultraspanspan chart - Triangular load - Glass (4/-/4) - Wind 0.4kN/m<sup>2</sup> - Snow 0.6kN/m<sup>2</sup>**



# ULTRASPAN TECHNICAL NOTES

How Ultraspan works with bi-fold doors - For KEY see page 6



## Bolstered beam

A deeper glazing frame add on recommended on bi-fold and adjacent frames to account for additional 25mm deep bolster (14).

A gap between (5) (roof vent trim) and (6) (glazing packer) allows (11) (bi-fold header bracket) to move vertically, relative to (1) (beam) whilst firmly securing to bi-fold frame front to back.

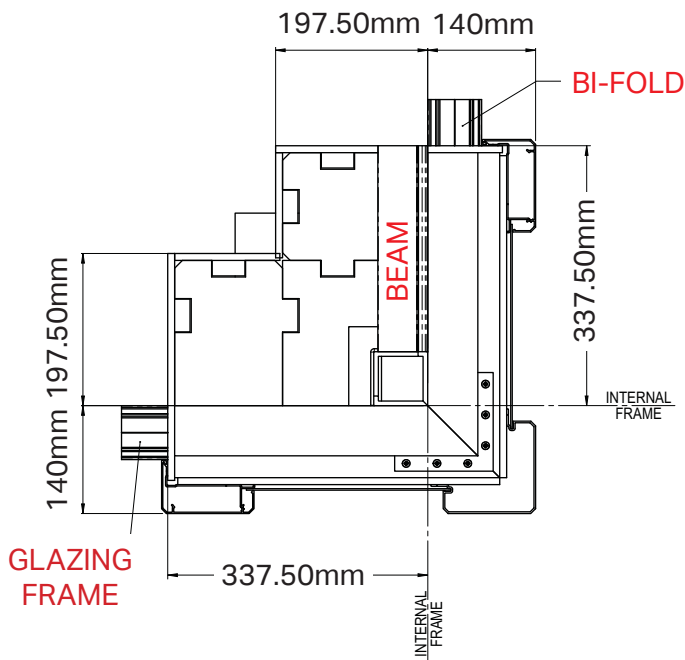
↑  
↓  
The deflection gap between the underside of the eaves beam and the frame header bracket. The gap is filled with an expanding foam tape.

The door frame is positioned 30mm below the eaves beam. Using a 30mm add-on will ensure plasterboarding of the insulated pelmet will not encroach on the door frame glazing bead. To maintain even frame height, 2 x 30mm add-ons will be required on the building elevations without Ultraspan.

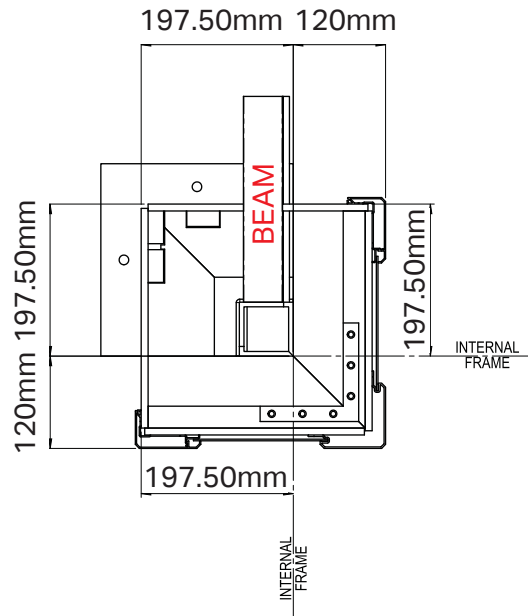
ITEM No.	STOCK CODE	DESCRIPTION
1	BFG--/1	150 x 50 ALUMINIUM BOX SECTION
2	BFG004	M12 WASHER
3	BFG002	M12 HEX BOLT x 45mm
4	BFG003	M12 HALF NUT
5	PVSB024S	ROOF VENT TRIM
6	RVA024	24mm GLAZING PACKER WITH WST001
7	VAAA--H	EAVES BEAM
8	BFGFT600W	INTERNAL FASCIA BOARD
9	STC001	M8 x 30 HEX CAP SCREW
10	BFG018/6	COMPRESSION SPACER
11	BFG--/8	BI-FOLD HEADER BRACKET
12	BFG012	EXPANDING FOAM TAPE
13	BGI065/3	BOXGUTTER FOAM
14	BFG--/2	50 x 25mm BOLSTER BAR
15	BFG011	M8 C/SINK HEX SOCKET x 35mm

# ULTRASPAN AND SUPER INSULATED COLUMNS

Plan view large corner super-insulated column



Plan view small corner super-insulated column



External corner of the 70mm corner post lining through with the internal frame lines.

The max length of the beam is 6500mm.

The frame deductions required for the super-insulated column results in a maximum door size.

An example of this would be the maximum beam span plus the size of the two corner posts, minus the frame deduction on each side.

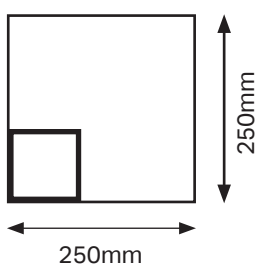
$$6500 + 70 + 70 - 337.5 - 337.5 = 5965\text{mm}$$

Similarly for a small column it would be 6245mm

Note: Ultraspan returning to host wall abutment column can NOT accommodate a concealed rainwater pipe.

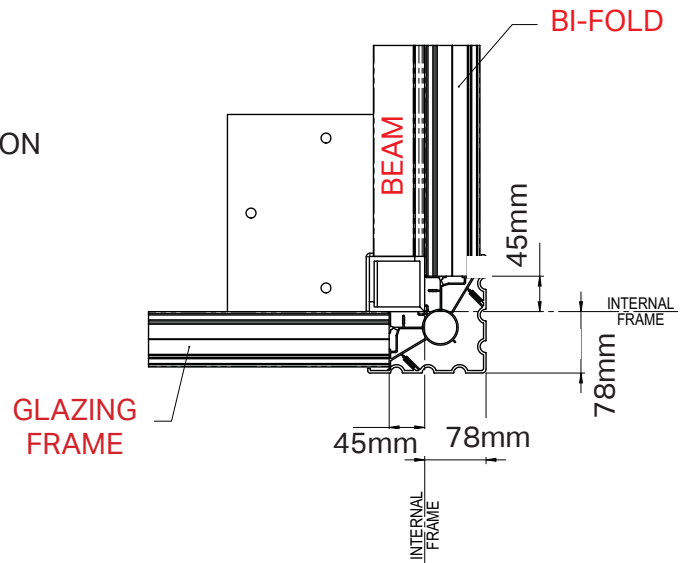
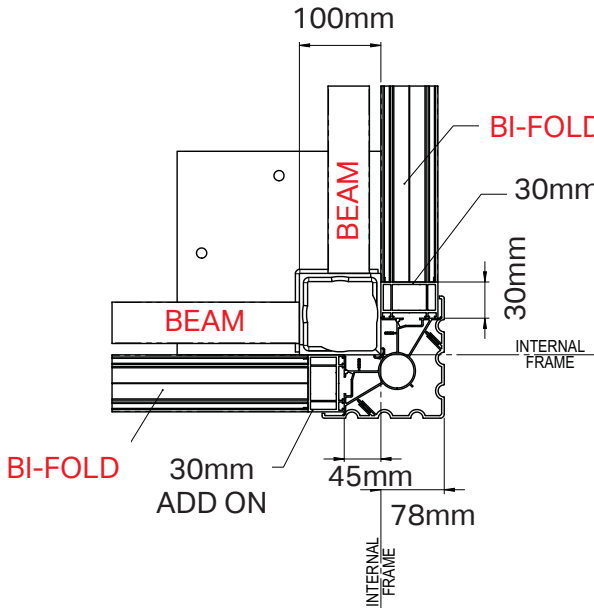
## Footplate

Welded footplate supplied as standard.



# ULTRASPAN AND STANDARD CORNER POSTS

## Plan view PVCu cladding



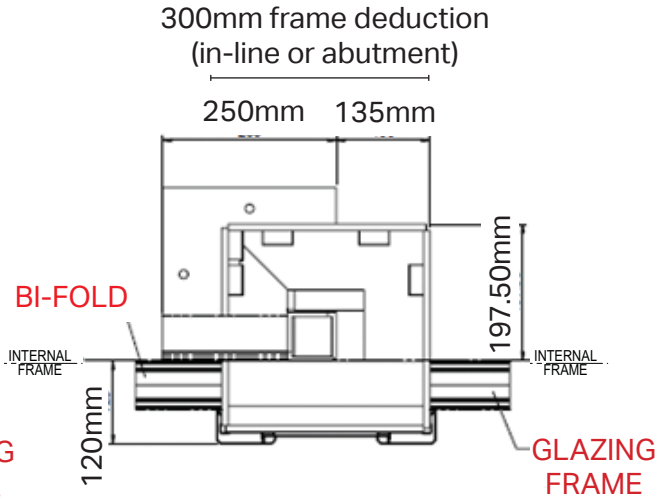
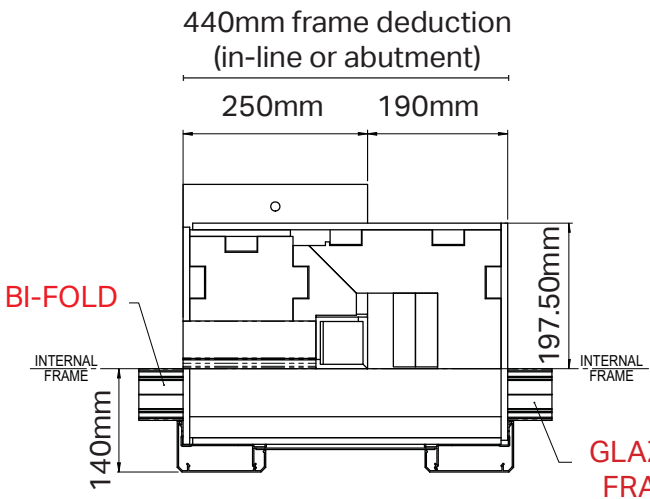
### Bi-fold to Bi-fold

On a 90° corner, bi-fold to both elevations a 100mm square post is used. 30mm frame add-ons must be used down the vertical frames.

### Bi-fold to glazing frame

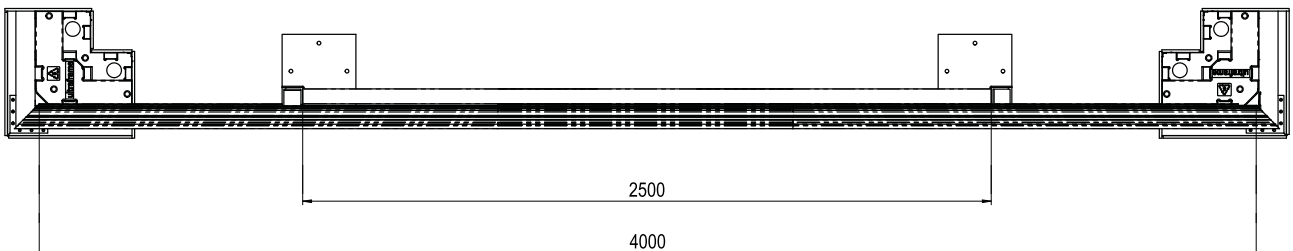
The standard glazing frame corner post supplied on the outside of the Ultraspans post allows the full 6500mm span from the beam to be used. There is a 45mm deduction for the windows.

## Plan view in-line detail - used for abutment frame dimensions

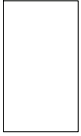
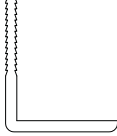




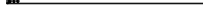

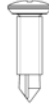




The max length of the beam is 6500mm. The frame deductions required for the super-insulated column results in a maximum door size.

### In-line situation - 2.5 mitre bi fold on a 4 mitre wide roof



# COMPONENT IDENTITY LIST

				
BFG012 Expanding foam tape	PVSB024S Roof vent trim	VAAA---/H Heavy eaves beam	BFG---/8 Bi-fold door header bracket	RVA024 24mm glazing packer with WST001
				
BFG005 Compression spacer	STC001 M8 x 30 hex cap screw	BFGFT--- Internal fascia board	BGI065/3 Boxgutter foam	BFG---/1 150 x 50 aluminium box section
				
BFG004 M12 washer	BFG002 M12 hex bolt x 45mm	BFG003 M12 half nut	BFGP25OM/1 70 x 70 x 6 aluminium post	BFGP25OM/2 100 x 100 x 6 aluminium post
				
BFG---/2 50 x 25mm aluminium bolster	BFG011 M8 C/sink hex socket x 35mm	CRN009 3.5 x 9.5 pan head self drilling screw	CRN007 4.8 x 16 self drilling screw	CRN---/4 Cornice trim
				
BFG---/3 BFG---/4 Window widget assembly	12111 Ultraspan large 90° column	12113 Ultraspan small 90° column	12117 Ultraspan large in-line / abutment column	12123 Ultraspan small in-line / abutment column



## TOOLS REQUIRED



M12 and M8 Socket Spanner



Drill/Screwdriver

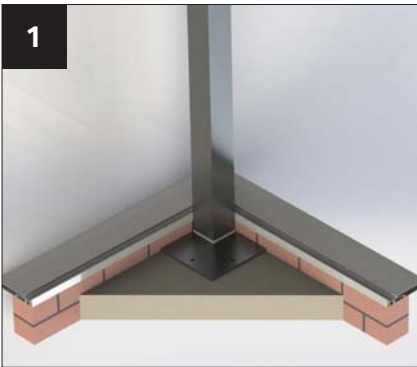


7mm Drill Bit



75mm Long Reach Socket

## GENERAL INSTALLATION



1 Position one of the vertical posts so the outer edges line up with the internal frame line. If the posts are inline use the set out dimensions given. Fix down through the 250mm<sup>2</sup> plate using 4 x M10 bolts.



2 Fit the corner cleats into the side eaves sections first, using M5 x 9 taptite screws to secure.



3 Insert the beam assembly into the second post and secure with M12 washers and nuts.

**Larger holes on one side so a socket wrench can be used.**



4 Lift the assembled beam and post into position and secure the other end of the beam into the fixed post as before. Fix down the post as in step 1.



5 Fix the corner cleats into the beam eaves using the same fixings as step 2.



6 Firstly ensure the gap between the bottom of the eaves and the top of the bracket is 30mm along the length of the bracket. Then using appropriate screws secure the bi-fold door frame by screwing on an angle down into the header bracket at 250mm centers.

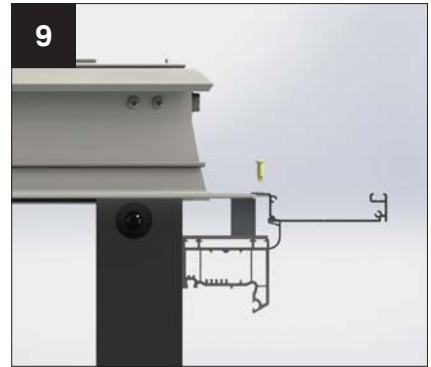
## GENERAL INSTALLATION



Alternatively the bi-fold door can be secured up into the header bracket, again using appropriate fixings at 250mm centres.



Pre-assemble CRN/4 to CRN/1 using 3.5 x 9.5 pan head screws at 500mm centers. Ensure CRN/4 is fit equidistant from either end of CRN/1.



Fix the assembled cornice sections on to the eaves using 4.8 x 16 self drill screws, ensure the centre aligns with the centre of the beam.

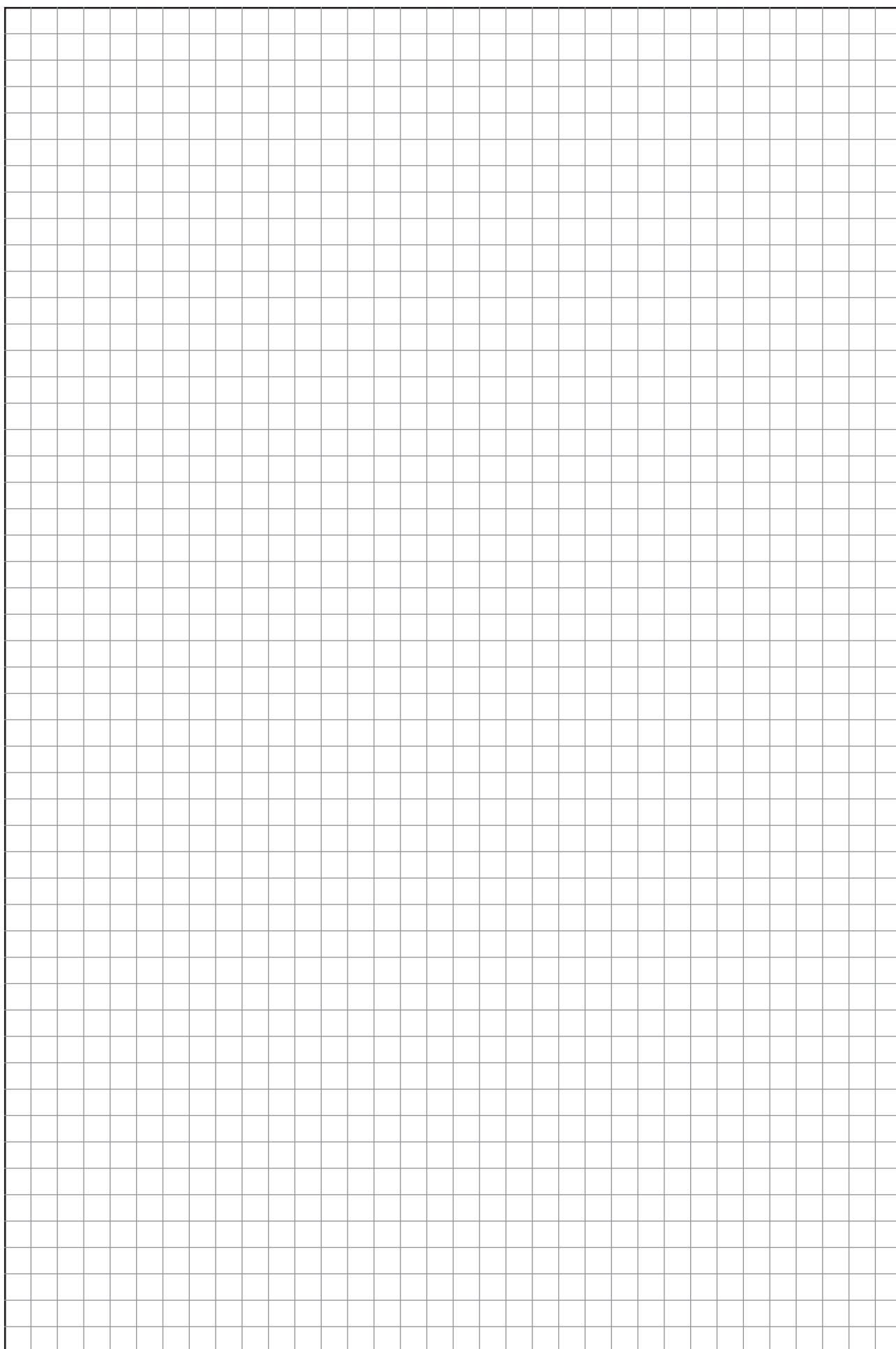


Finally either brick work, window widget corner posts or super-insulated columns (shown) can be fit around the posts and clad off.



If super-insulated columns are to be used fix them to the eaves using appropriate fixings.

Date:        /        /



[www.ultraframetrade.co.uk](http://www.ultraframetrade.co.uk)

**Ultra**frame  
Transforming light and space

**Job No.: 3591 01/18 V4 Ultraspan Installation**

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