Lonsdale Design Guide

Introduction

This Design Guide has been produced to assist specifiers and designers by illustrating typical installation details for sloped and vertical patent glazing. It is not exhaustive, but it does illustrate good practice for most applications and all details are in accordance with BS5516 for the design and installation of sloped and vertical patent glazing.
Users of this guide must exercise all reasonable care to ensure that the details and products of Lonsdale Metal Company Limited are suitable for the intended purpose. If in doubt, ask us.
Having decided to specify Lonsdale Patent Glazing, to save you valuable drafting time, CAD drawings of typical installation details are available on disk or from our website :
www.roofglazing.co.uk

If you require assistance please contact our Technical Department.
Lonsdale Metal Company Limited,
Millmead Industrial Centre, Mill Mead Road, London. N17 9QU
Telephone : 020 8801 4221 Facsimile: 020 8801 1287

Contents

Ranges

PRINT OUT THIS DESIGN GUIDE FOR REFERENCE IF YOU WISH.
CLICK THE Pages TAB TO SEE THUMBNAILS OF ALL THE PAGES IN THE PUBLICATION.
TO PRINT OUT INDIVIDUAL PAGES, CLICK File, Print THEN CHECK Current page
OR SELECT Pages RANGE AND CLICK OK. TO PRINT DRAWINGS TO THE SCALE INDICATED
YOUR PRINT DRIVER MUST BE CAPABLE OF BEING SET AT 100%. LOOK IN YOUR PRINTER'S
Properties FOR SETTINGS. CONTACT OUR TECHNICAL DEPARTMENT FOR FURTHER ADVICE.

Guide to the Selection of Glazing Bars

Scope

The data given indicates the maximum unsupported spans for the range of Lonsdale Patent Glazing Bars when subjected to the three combined loading conditions of 800, 1200 and 1800 N/ m². They are broadly defined in Table 1 alongside typical site locations for these loadings.
Tables 2 and 3 respectively (pages 4 & 5) give the spans for bars carrying single and double glazing; they cover different double pitch roof angles and vertical glazing.

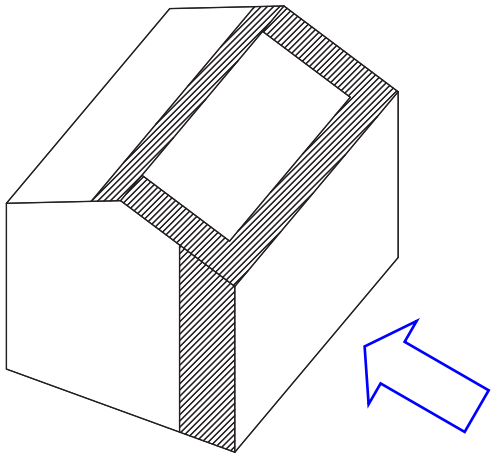
Standards

The data has been calculated using the following Standards :
BS6399:Part 3:1988 British Standard loading for buildings
Code of practice for imposed loads.
BS5516 Code of practice for the design and installation of patent glazing.
BSCP3:Chapter V: Part 2:1972 Code of basic data for the design of buildings - wind loads.

Loadings

Combinations of wind and snow loadings, together with the self-weight of bars and glass, have been considered in determining the maximum bar spans. Surface and local wind pressure coefficients (the latter relating to the higher loaded areas on the roof edges and wall comers - see the shaded area of fig 1), are both taken into consideration. Likewise, the effects of uniform and asymmetric snow loading are also included.

Fig1 - Local high load areas (shaded) on the roof and wall glazing



Location and Site Conditions

Table 1

Typical location	Maximum eaves height	Basic wind speed	Dynamic wind pressure	Basic snow loading	Combined wind & snow loading
	m	m/s	N/m²	N/m²	N/m²
City centre	4.0	44	400	400	800
Outskirts of large city	5.0	46	650	550	1200
Open country	6.0	50	1250	550	1800

Continued page 3

Guide to the Selection of Glazing Bars - continued

Limitations

Tables 2 and 3 (pages 4 & 5) are restricted to :

- Glazed walls and double pitched roofs of rectangular clad buildings of height / width ratios up to 6 : 1 and length / width ratios up to 4 :1.
- Two edge support of glass on bars spaced at 600mm.
- Single glazing using 6mm polished or 7mm wired cast glass.
- Hermetically sealed double glazed units, with 6mm thick float, toughened or laminated glass in any combination.

Failure Conditions

The glazing bar spans given will not fail due to either excessive deflection or stressing of the components, in accordance with the above standards.

Technical Support

Care should be taken in applying the above data to different site locations, conditions, building size or roof types (including canopies). In such instances, Lonsdale Metal Company will be pleased to give further advice, upon request.

Cleaning and Maintenance

Recommended procedures can be found on our website www.roofglazing.co.uk and in BS5516 - Code of practice for the design & installation of sloping and vertical patent glazing. In addition, if materials are coated with an architectural finish e.g. polyester powder paint, advice should be sought from the manufacturers / applicator of the process.

Recommended further reading

BS5516 - Code of practice for the design & installation of sloping and vertical patent glazing
BS6399:Part 3 - Loading for buildings - Code of practice for imposed loads
BS CP3 Chapter V Part 2 - Code of basic data for the design of buildings - Wind loads
NBS Specification H10 Patent Glazing

Continued on page 4

Guide to the Selection of Glazing Bars - continued

Maximum span between supports (metres)

NB: The overall bar length may exceed these values in order to provide an overhang at the eaves and/or ridge.

Single Glazed Bars

Table 2

Combined basic wind & snow loading	Glazing Bar	Angle of Glazing relevant to the horizontal					
N/m²		15°	22.5°	30°	45°	60°	Vertical
800	SKY50	2.47	2.59	2.57	2.77	2.77	2.60
	SKY65	3.19	3.08	3.05	3.36	3.45	3.35
	SKY71	3.69	3.85	3.85	3.89	3.89	3.78
	SKY76	4.09	4.24	4.23	4.30	4.30	4.18
	PLM17	2.33	2.42	2.40	2.59	2.59	2.44
	PLM20	3.68	3.93	3.92	3.98	3.98	3.87
	ALM100/1	3.34	3.44	3.43	3.49	3.49	3.40
	ALM100/2	4.15	4.27	4.26	4.33	4.34	4.23
	ALM100/3	4.67	4.89	4.88	4.96	4.98	4.87
	ALM100/4	5.33	5.55	5.54	5.64	5.66	5.55
	ALM100/5	Span between supports on application					
	ALM100/H6	3.38	3.49	3.48	3.53	3.54	3.44
	ALM100/H7	4.49	4.71	4.70	4.78	4.80	4.69
	ALM100/H8	Span between supports on application					
1200	SKY50	1.86	2.04	2.03	2.33	2.27	2.06
	SKY65	2.45	2.68	2.67	2.89	2.92	2.71
	SKY71	3.20	3.35	3.34	3.58	3.53	3.36
	SKY76	3.55	3.71	3.70	3.97	3.90	3.72
	PLM17	1.75	1.92	1.91	2.20	2.13	1.94
	PLM20	3.19	3.44	3.43	3.68	3.62	3.45
	ALM100/1	2.79	3.03	3.02	3.22	3.17	3.03
	ALM100/2	3.59	3.77	3.75	4.00	3.94	3.76
	ALM100/3	4.04	4.36	4.34	4.60	4.53	4.34
	ALM100/4	4.61	4.97	4.95	5.22	5.15	4.94
	ALM100/5	Span between supports on application					
	ALM100/H6	2.85	3.06	3.05	3.26	3.21	3.06
	ALM100/H7	3.89	4.20	4.18	4.43	4.37	4.18
	ALM100/H8	Span between supports on application					
1800	SKY50	1.28	1.39	1.39	1.59	1.57	1.47
	SKY65	1.68	1.83	1.82	2.09	2.06	1.93
	SKY71	2.29	2.50	2.49	2.86	2.82	2.64
	SKY76	2.73	2.98	2.97	3.27	3.25	3.14
	PLM17	1.20	1.31	1.30	1.49	1.48	1.38
	PLM20	2.19	2.51	2.50	2.87	2.83	2.64
	ALM100/1	1.90	2.07	2.06	2.37	2.34	2.18
	ALM100/2	2.77	3.02	3.01	3.32	3.30	3.17
	ALM100/3	3.34	3.58	3.57	3.83	3.80	3.66
	ALM100/4	3.80	4.08	4.07	4.36	4.32	4.17
	ALM100/5	Span between supports on application					
	ALM100/H6	1.94	2.12	2.11	2.43	2.39	2.23
	ALM100/H7	3.16	3.45	3.44	3.69	3.66	3.53

Note: PLM15 and PLM 15R refer sales office

Continued on page 5

Guide to the Selection of Glazing Bars - continued

Maximum span between supports (metres)

NB: The overall bar length may exceed these values in order to provide an overhang at the eaves and/or ridge.

Double Glazed Bars

Table 3

Combined basic wind & snow loading	Glazing Bar	Angle of Glazing relevant to the horizontal					
N/m²		15°	22.5°	30°	45°	60°	Vertical
800	SKY50	-	-	-	-	-	-
	SKY65	2.08	2.03	2.03	2.11	2.16	2.15
	SKY71	2.64	2.58	2.58	2.69	2.75	2.75
	SKY76	3.25	3.21	3.21	3.74	3.71	3.98
	PLM17	-	-	-	-	-	-
	PLM20	3.01	2.98	2.98	3.04	3.07	3.08
	ALM100/1	2.12	2.07	2.07	2.16	2.22	2.23
	ALM100/2	3.27	3.19	3.19	3.31	3.35	3.36
	ALM100/3	3.75	3.71	3.71	3.80	3.85	3.87
	ALM100/4	4.26	4.22	4.22	4.31	4.38	4.41
	ALM100/5	Span between supports on application					
	ALM100/H6	2.17	2.12	2.12	2.21	2.27	2.28
	ALM100/H7	3.62	3.58	3.58	3.66	3.71	3.73
	ALM100/H8	Span between supports on application					
1200	SKY50	-	-	-	-	-	-
	SKY65	1.64	1.81	1.79	1.84	1.81	1.71
	SKY71	2.09	2.31	2.29	2.34	2.30	2.18
	SKY76	2.90	3.05	3.04	3.27	3.18	2.96
	PLM17	-	-	-	-	-	-
	PLM20	2.61	2.83	2.82	2.84	2.82	2.74
	ALM100/1	1.70	1.89	1.87	1.89	1.86	1.76
	ALM100/2	2.63	2.92	2.88	2.90	2.87	2.72
	ALM100/3	3.30	3.55	3.54	3.55	3.53	3.45
	ALM100/4	3.76	4.04	4.03	4.04	4.02	3.93
	ALM100/5	Span between supports on application					
	ALM100/H6	1.75	1.93	1.91	1.93	1.91	1.81
	ALM100/H7	3.18	3.42	3.42	3.42	3.40	3.32
	ALM100/H8	Span between supports on application					
1800	SKY50	-	-	-	-	-	-
	SKY65	1.08	1.19	1.18	1.36	1.33	1.21
	SKY71	1.38	1.51	1.51	1.73	1.69	1.55
	SKY76	2.36	2.47	2.46	2.64	2.61	2.50
	PLM17	-	-	-	-	-	-
	PLM20	2.13	2.29	2.28	2.45	2.42	2.31
	ALM100/1	1.13	1.24	1.23	1.42	1.38	1.26
	ALM100/2	1.75	1.91	1.90	2.19	2.14	1.95
	ALM100/3	2.68	2.89	2.88	3.09	3.05	2.91
	ALM100/4	3.06	3.29	3.28	3.52	3.47	3.31
	ALM100/5	Span between supports on application					
	ALM100/H6	1.15	1.26	1.26	1.44	1.41	1.29
	ALM100/H7	2.59	2.78	2.78	2.98	2.94	2.81

Technical Summary

Patent Glazing Bars

Specification
Glazing Bars, Cappings, Beads and Fittings are extruded aluminium alloy 6063-T6 to BS1474. Fasteners provided are either stainless steel to BS304515 Grade A2 or mild steel bright zinc plated. Gaskets are extruded Thermo Plastic Rubber quality 98625 to BS4255:Part1:1986 Grade C.

Performance
All systems are designed to conform with the requirements of BS5516 when installed within the manufacturers recommendations. A guide to maximum spans is given on pages 4 & 5 of the Design Guide and should be referred to prior to planning an installation.

Fixing
Fixing to timber is directly through the channels at the top of the glazing bars with two No. 10 x 1.5 inch bright zinc plated wood screws and a sliding shoe with wood screws at the bottom end. Fixing to metal is with M8 Single Hole Fixing Shoes positively fixed at the top and sliding at the bottom end. Dissimilar metals should be isolated to avoid bi-metallic corrosion

Appearance
Materials are supplied Mill Finished as standard. A range of architectural finishes is available including polyester powder coating to BS6496 in standard RAL or BS colour ranges.

Ventilation
May be achieved either through GlazaTherm, our top hung roof ventilator, or by casement vents in vertical applications. Various factory fitted opening mechanisms are available including manual, pole or cord operated, electrical, thermostatic or smoke activated controls.

Infill
All popular specifications can be accommodated including 6 / 7mm Single Glazing, 24mm and 28mm Double Glazed Sealed Units or 10mm,16mm or 25mm Polycarbonate Sheeting. Other infills should be discussed with our technical department. Double Glazed combinations should feature a suitable "step" to the bottom edge to avoid thermal breaking.

Building Regulations
Please visit our website www.roofglazing.co.uk for guidance and compliance with the Regulations relating to fire, non-fragility, thermal and air-tightness performance.

Continued page 7

SpanGard - Self supporting roof-lights

Geometry and Dimensions
Pyramids, rectangles, hexagons, octagons and polygons are all possible within the boundaries of regular geometry. Standard roof pitches are from 22.5° in 5° increments to 45°. Roof lights may be manufactured to infinite length with a width restriction up to 6000mm subject to infill and roof pitch.. Vertical up-stands on Lantern lights are approximately 500mm high as standard, but other heights may be incorporated on request. Special commissions for irregular shapes, sizes and pitches should be discussed with our technical department.

Specification
Fabricated from the ThermGard series patent glazing system incorporating extruded aluminium alloy 6063-T6 Ridge, Hip, Eaves, Cill, and Flashings to BS1474. Supplied in component form for assembling on site to form entirely self-supporting structure. All joints are TIG welded or mechanically jointed with spigots and stainless steel fasteners to BS304515. Gaskets are extruded Thermoplastic Rubber quality 98625 to BS4255:Part 1 Grade C.

Performance
SpanGard is designed to conform with the requirements of BS5 516 when installed within manufacturers recommendations.

Thermal Break
If required a thermally improved option is available. Please contact our technical department for further details.

Appearance
Materials are supplied Mill Finish as standard. A range of architectural finishes is available including polyester powder coating to BS6496 in standard RAL or BS colour ranges.

Ventilation
May be achieved either through GlazaTherm, our top hung roof ventilator, or by casement vents in the up-stands of Lantern lights. Various factory fitted opening mechanisms are available including manual, pole or cord operated, electrical, thermostatic or smoke activated controls.

Infill
All popular specifications can be accommodated including 6 / 7mm Single Glazing, 24mm or 28mm Double Glazed Sealed Units or 10mm, 16mm or 25mm Polycarbonate Sheeting. Other infills should be discussed with our technical department. Double Glazed combinations should feature a suitable "step" to the bottom edge to avoid thermal breaking.

Fixing
Must be carried out using a suitable fastner to a structural curb capable of withstanding the relevant imposed self-weight, wind and snow loads without spread or movement

Building Regulations relating to SpanGard
Please visit our website www.roofglazing.co.uk for guidance and compliance with the Regulations relating to fire, non-fragility, thermal and air-tightness performance.

Typical Specifications

See www.roofglazing.co.uk for Quick Specifications which cover most popular typical applications or contact Technical Support for advice. We recommend you consider the National Building Specification H10 Patent Glazing. If you do not have access to a copy they can be contacted at:-

NBS Services,
Mansion House Chambers,
The Close, Tel : 0191 232 9594
Newcastle upon Tyne NE1 3RE Fax : 0191 232 5714

Typical Specification for Patent Glazing Bars

NB: *Italics* show where you must insert the detail relevant to your project	
Patent Glazing:	*To entrance canopy north elevation*
Drawing Reference:	*Drawing Numbers 123, 124, 125*
Supporting Structure:	*Timber at ridge, hip, intermediate and eves*
Patent Glazing System:	To BS5516, and as specified in this section
Manufacture & Reference:	Lonsdale Metal Company Limited, London N17 9QU Telephone: 020 8801 4221 Facsimile : 020 8801 1287 Reference *SKYGARD SKY65*
Type:	*Traditional inverted "T" bar with continuous pressure beads and gaskets*
Glazing Bar: Material Finish Colour Minimum film thickness Spacing: Slop: Bottom overhang lap:	 Aluminium alloy 6063-T6 to BS1474 *Polyester Powder Paint to BS6496* *White 9910 Satin* *40 microns* *Nominally 600mm glazing bar c/c* *30 degrees* *75mm*
Pane/infilling material(s):	*6.4mm clear laminate*
Incorporated components:	*None*

Please note : Whilst we are pleased to assist, the above example is given for guidance only. Responsibility remains with Specifiers to exercise all reasonable care ensuring our products are suitable for their requirements and correctly specified.

Continued page 9

Typical Specification for Lanterns and Skylights

NB: *Italics* show where you must insert the detail relevant to your project	
Patent Glazing:	*To central courtyard*
Drawing Reference:	*Drawing Numbers 123, 124, 125*
Supporting Structure:	Secured to Builders Curb with suitable fastener. Such Curb to be structural timber or steel capable of withstanding the relevant imposed loads, self- weight, wind & snow loads without spread or movement
Patent Glazing System:	To BS5516, and as specified in this section
Manufacture & Reference:	Lonsdale Metal Company Limited, London N17 9QU Telephone: 020 8801 4221 Facsimile : 020 8801 1287 Reference *SPANGARD*
Type:	*Self-supporting Pyramid Lantern-light with extruded aluminium Cill, Hips, Eaves, Ridge& Flashings. Up-stand height 500mm*
Glazing Bar: Material Finish Colour Minimum film thickness Spacing: Slop: Bottom overhang lap:	 Aluminium alloy 6063-T6 to BS1474 *Polyester Powder Paint to BS6496* *RAL9910M* *40 microns* *Nominally 600mm glazing bar c/c* *45 degrees* *Standard 58mm*
Pane/infilling material(s):	*6mm Heat soaked clear toughened outer leaf, 16mm Argon cavity, 6.4mm clear low-e laminated inner leaf with stepped bottom edge*
Incorporated components:	*Top hung casement ventilators in the up-stand operated by electric actuators*

Please note : Whilst we are pleased to assist, the above example is given for guidance only. Responsibility remains with Specifiers to exercise all reasonable care ensuring our products are suitable for their requirements and correctly specified.

Drawings and CAD Code Index

SkyGard

Drawings and CAD Code Index

PlasGard

*GlazaTherm – For 24 – 28mm Double Glazed Units or 25mm polycarbonate

Drawings and CAD Code Index

ThermGard

ThermGard continued on page 13

ThermGard continued

CAD codes prefixed with WF are for ThermGard conservatory rafter glazing bars

SpanGard

GlazaTherm – suitable for 24 – 28mm Double Glazed Units or 25mm polycarbonate

SkyGard

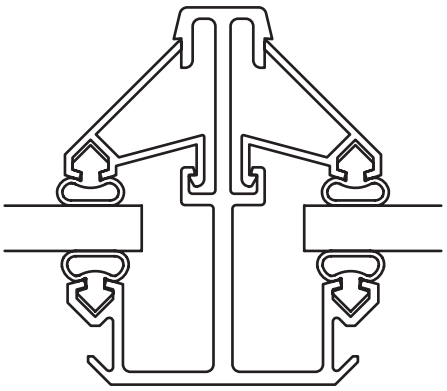
SkyGard is the latest development of the original Lonsdale glazing bars first introduced over fifty years ago. Maintaining all the benefits of traditional patent glazing. SkyGard utilises modem technology to beat all others in terms of weathering performance and value for money.

- Quick and easy to fit continuous pressure beads.
- Traditional" T " bar appearance.
- 6/7 mm single glazing or 24 mm double glazing – not thermally broken.
- Economy without sacrifice to quality or performance.
- No-nonsense easy to follow installation details.

SKY50 Profile

CAD Code SKY50Y

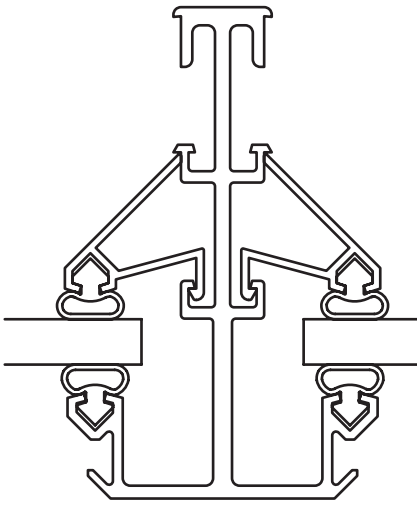
Single Glazing only



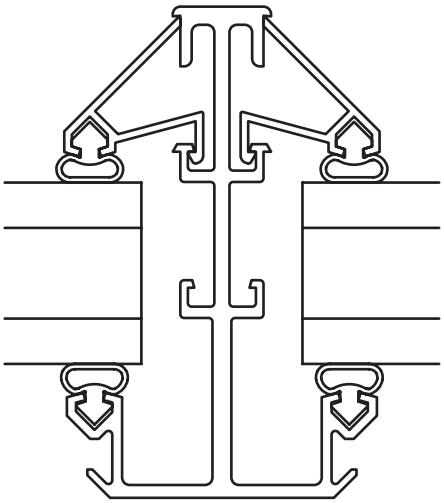
SKY65 Profile

CAD Code SKY65Y

Single Glazing



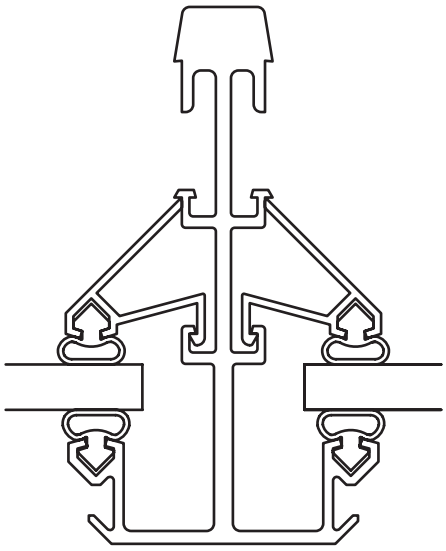
Double Glazing



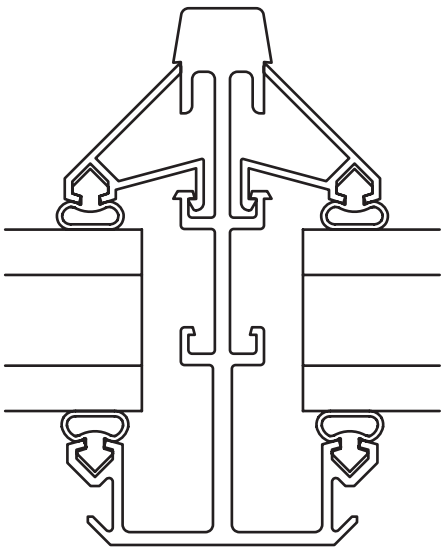
SKY71 Profile

CAD Code SKY71Y

Single Glazing



Double Glazing

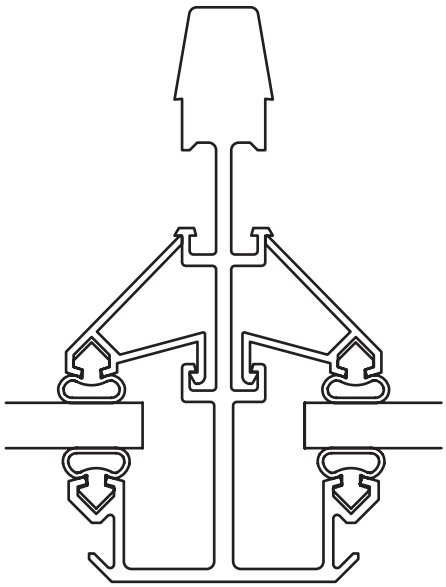


Scale of all profiles 1:1

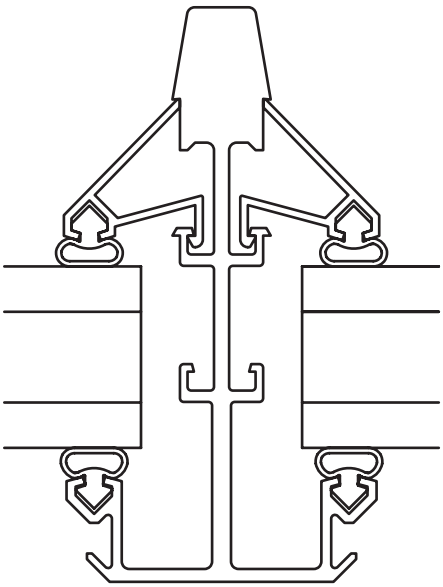
SKY76 Profile

CAD Code SKY76Y

Single Glazing



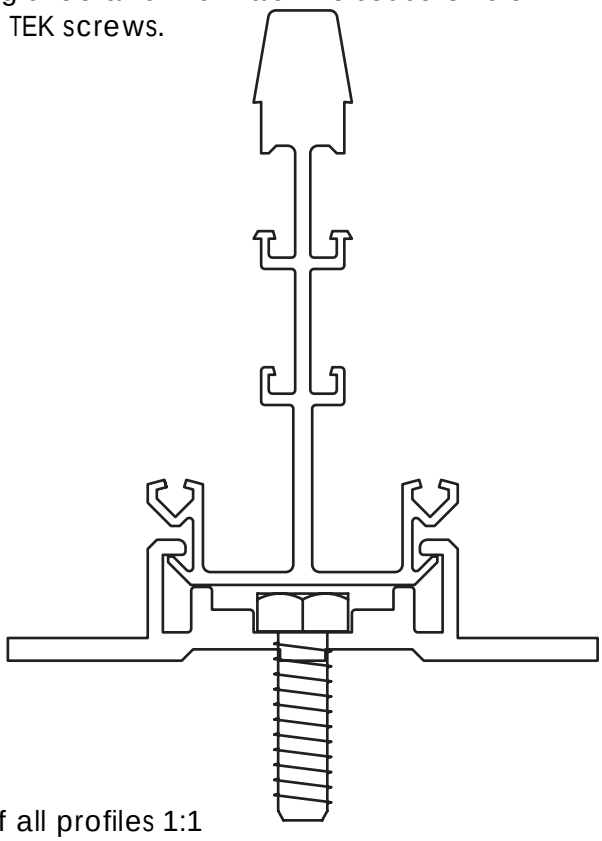
Double Glazing



Metal Fixing Shoe

CAD Code MFIXSHOE

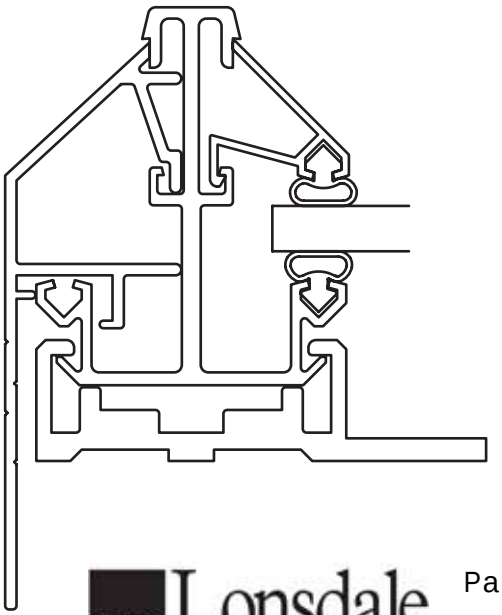
Fixing to metal supports is by single hole fixing shoe supplied with stainless steel M8 nut and bolt. Alternatively, fixing to RHS may be achieved by drilling and tapping into the metal supports using the fixing shoe and M6 machine set screws or suitable TEK screws.



End Bar Wing

CAD Code EBARWING

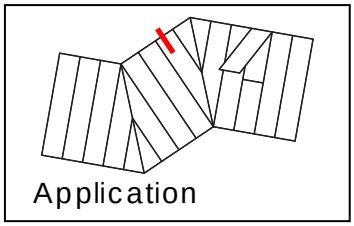
End bar wing fits all sections and should be secured with No 8 self-tapping screws.



Scale of all profiles 1:1

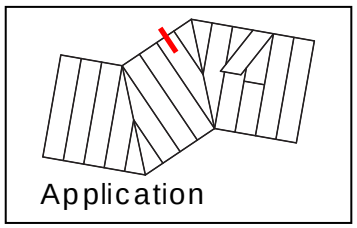
Top fixing to metal

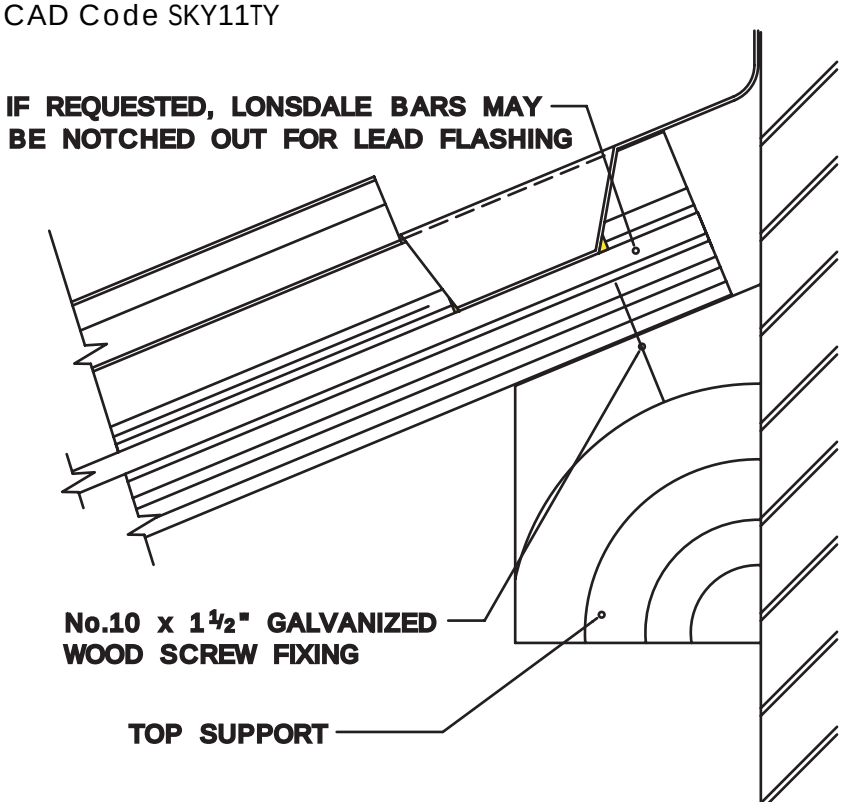
CAD Code SKY11MY



Top fixing to timber

CAD Code SKY11TY

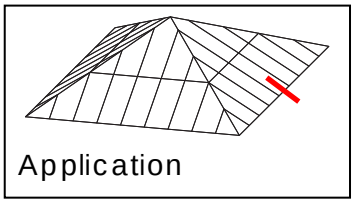


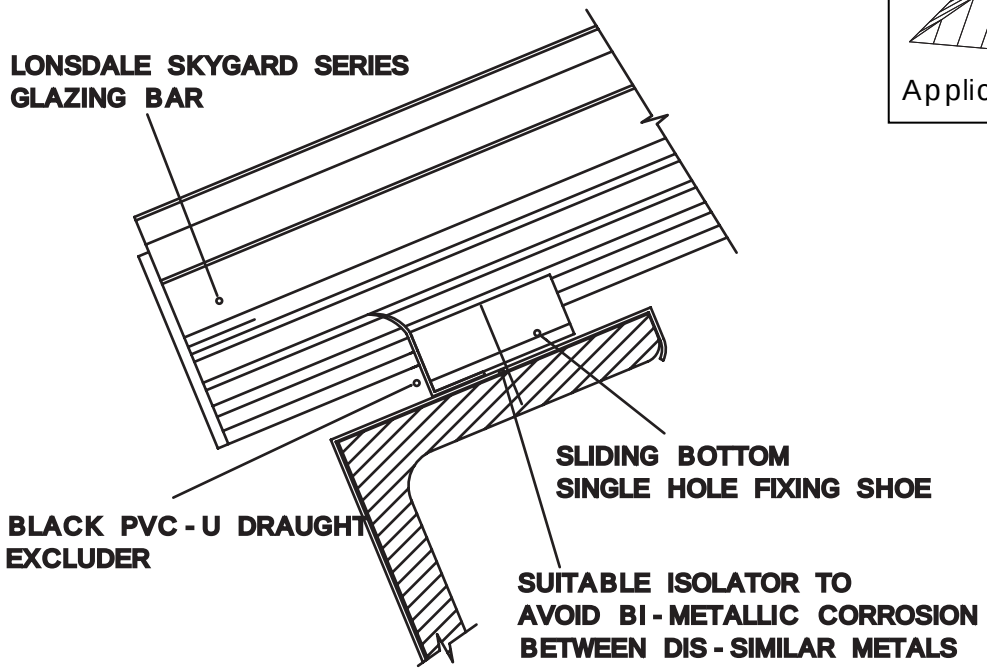


Scale of views 1-2

Eaves fixing to metal

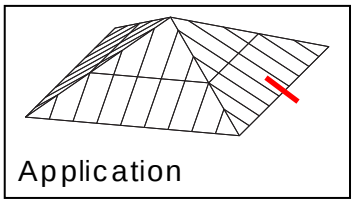
CAD Code SKY12MY

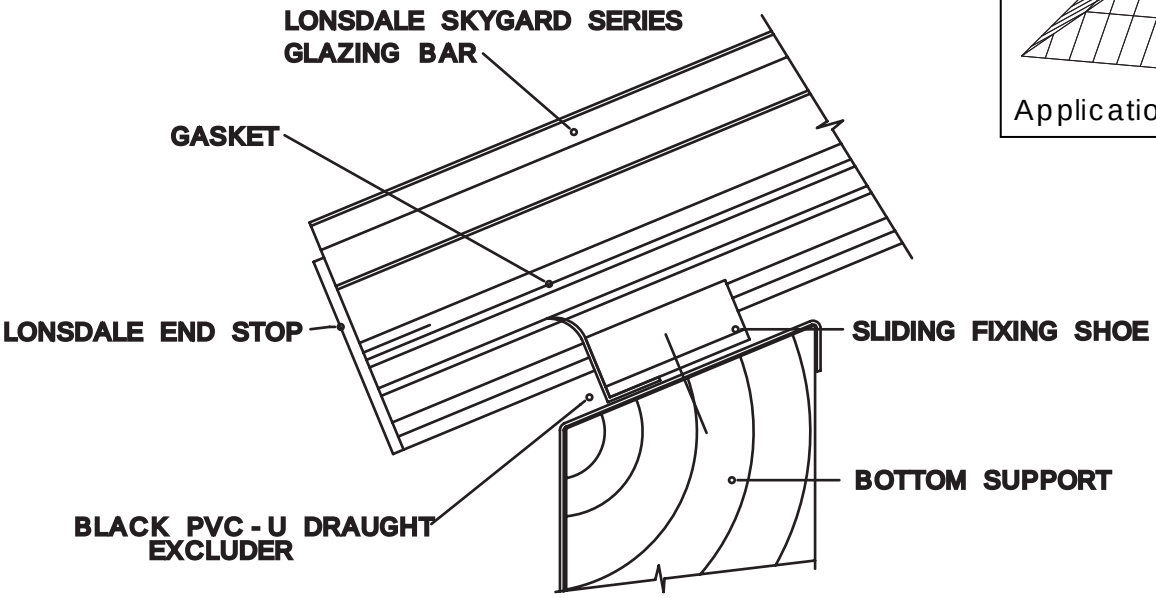




Eaves fixing to timber

CAD Code SKY12TY



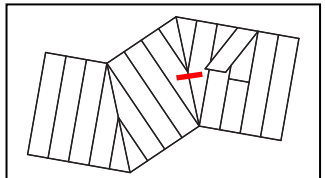


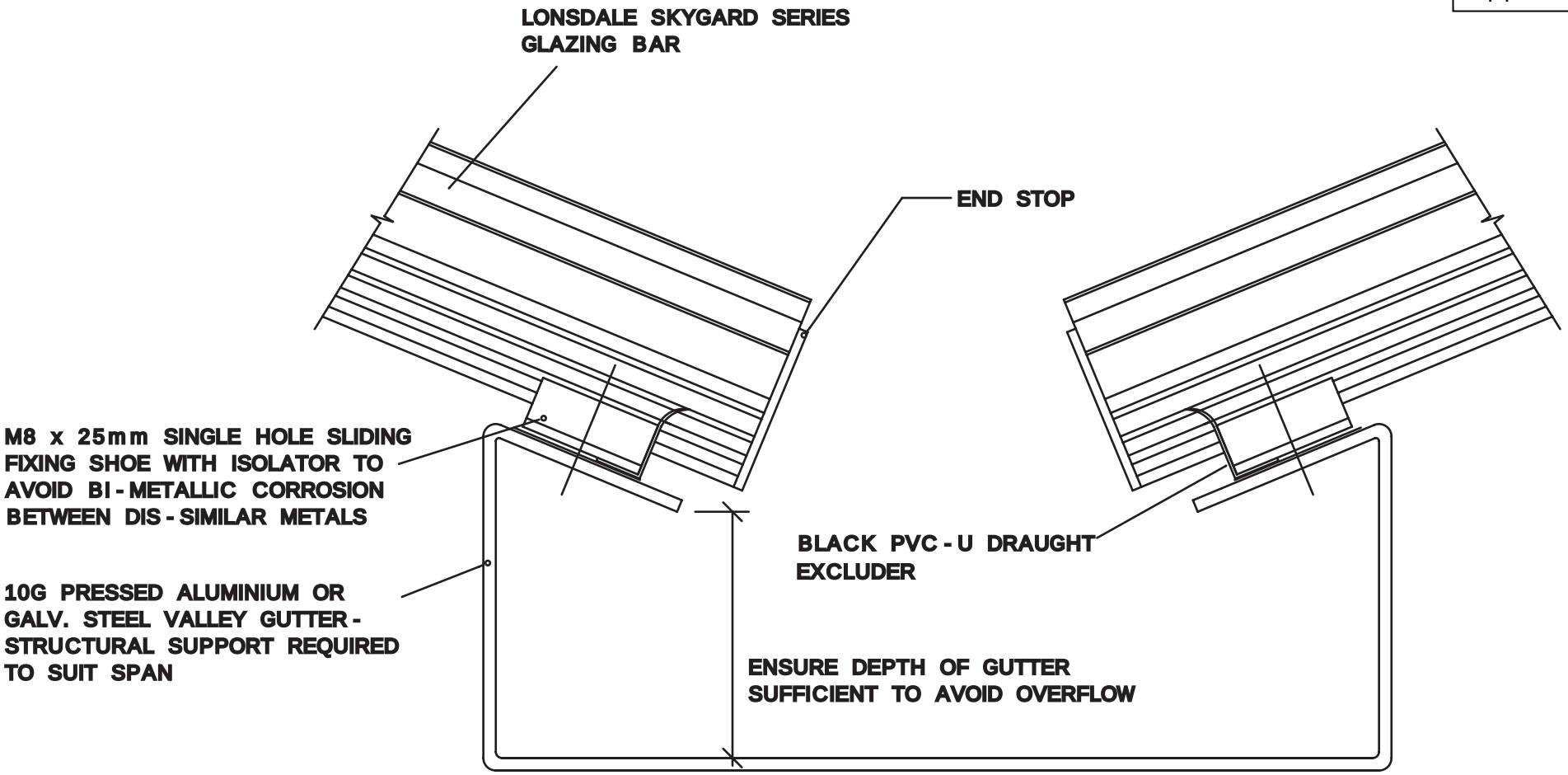
Scale of views 1-2

SkyGard

Valley gutter aluminium or steel

CAD Code SKY13MY



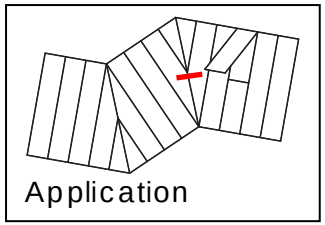


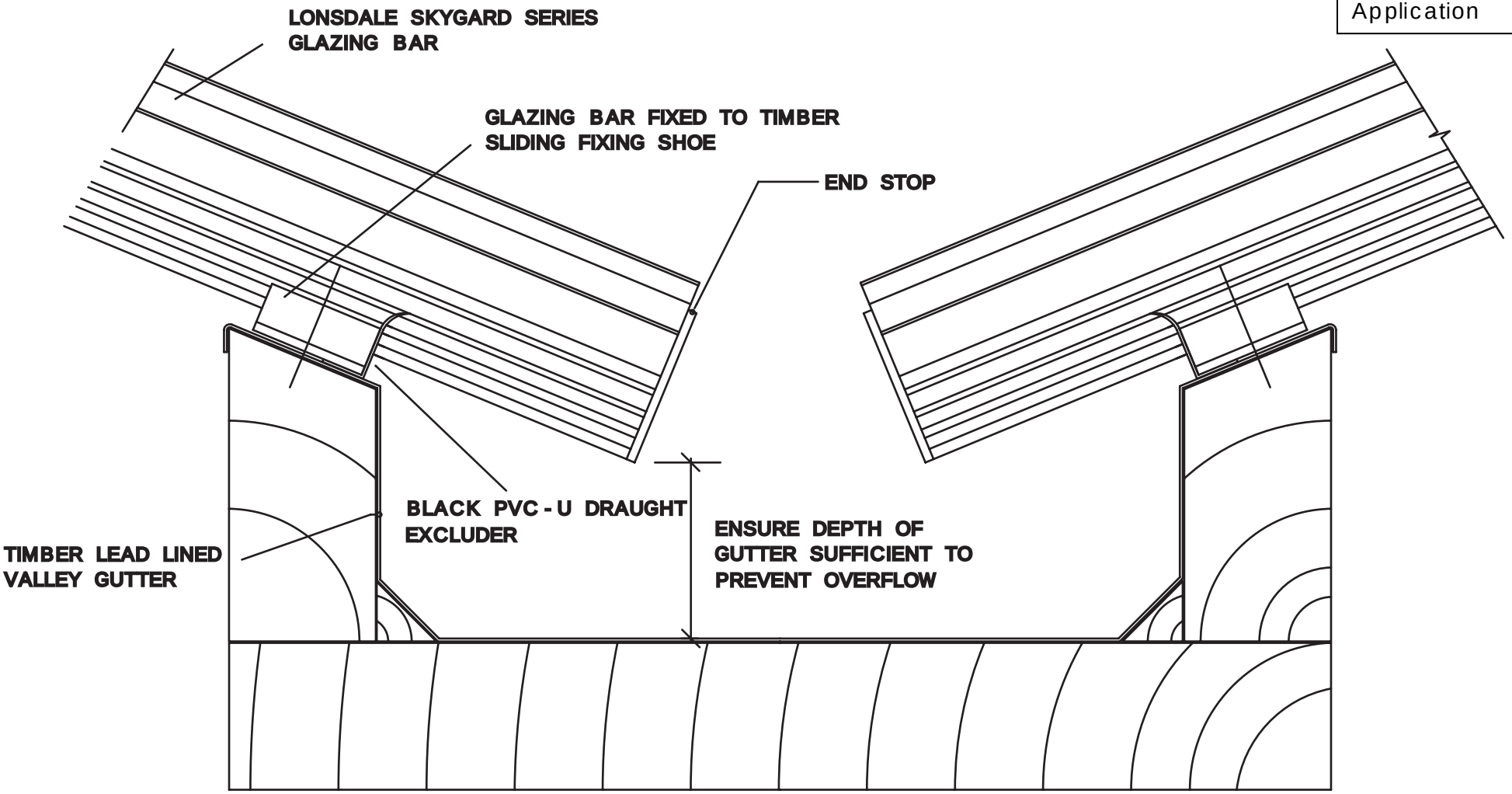
Scale of view 1: 2

SkyGard

Valley gutter detail lead lined to timber

CAD Code SKY13TY

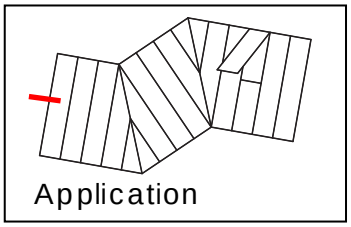


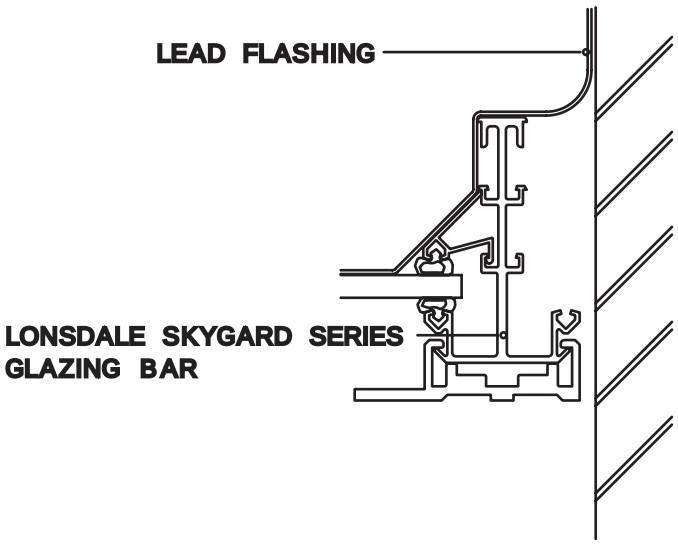


Scale of view 1: 2

Parapet to brickwork

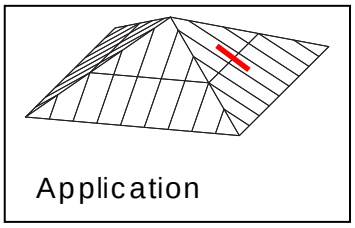
CAD Code SKY14X

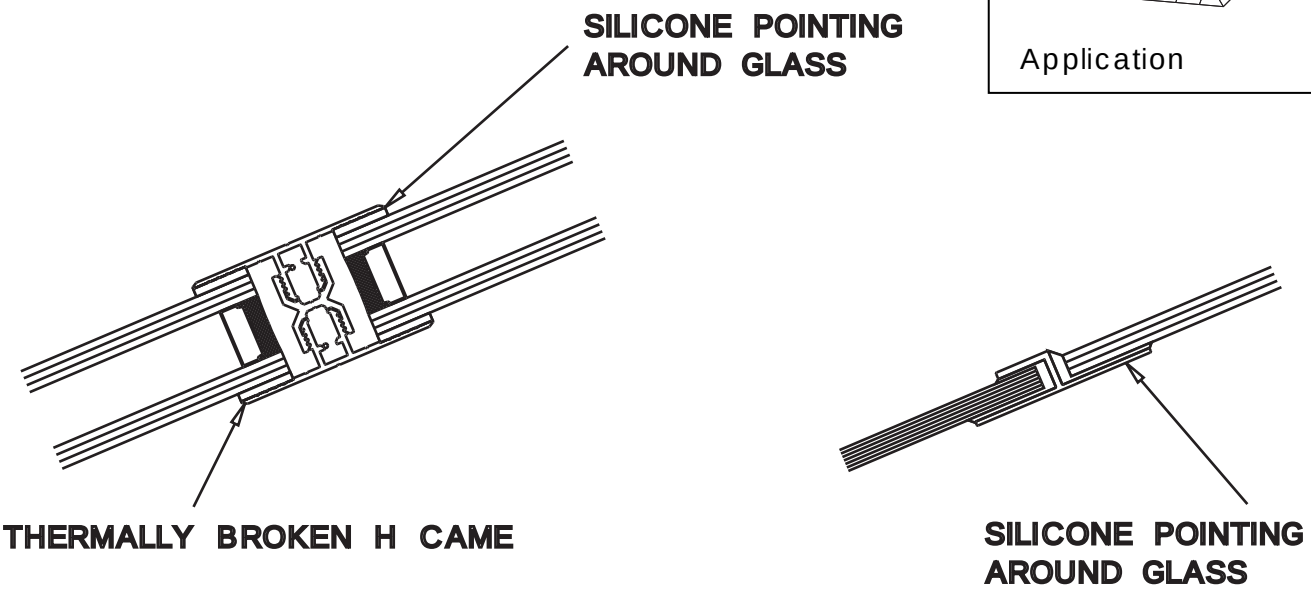




Glass jointing – Single glazing

CAD Code 22Y



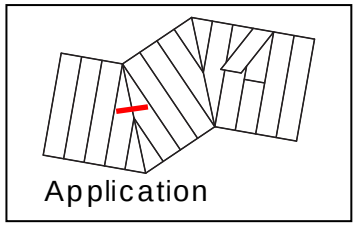


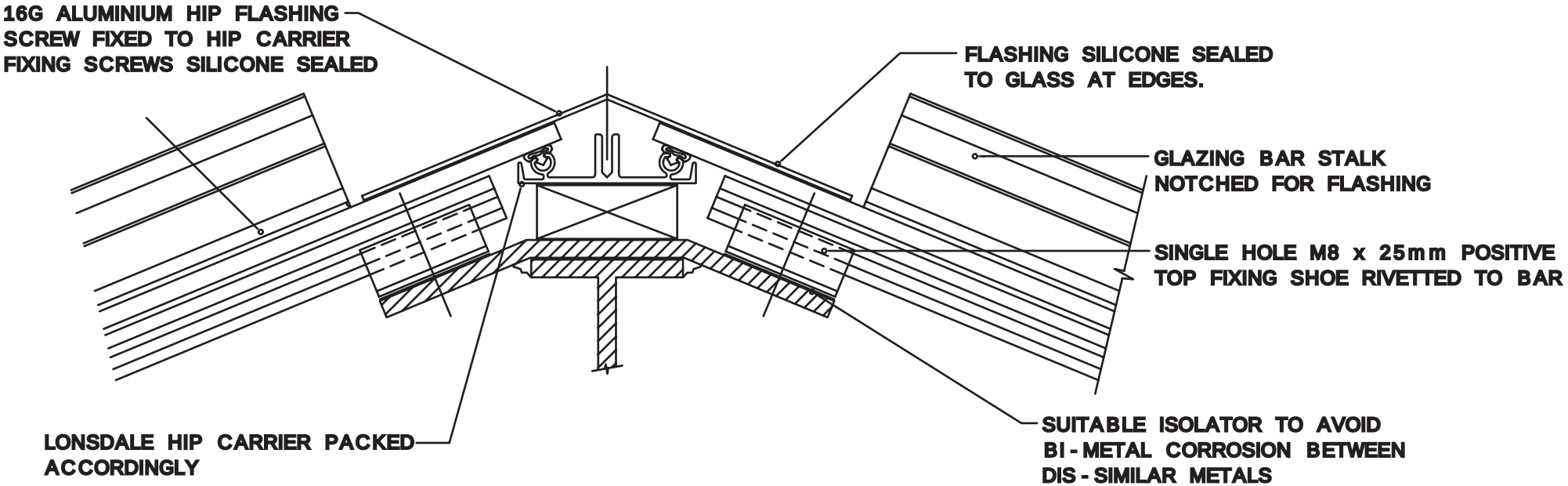
Scale of views 1-2

SkyGard

Hip detail to metal

CAD Code SKY18MY – also see page 31 CAD Code SKY32MY



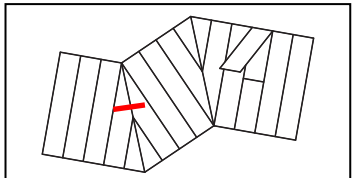


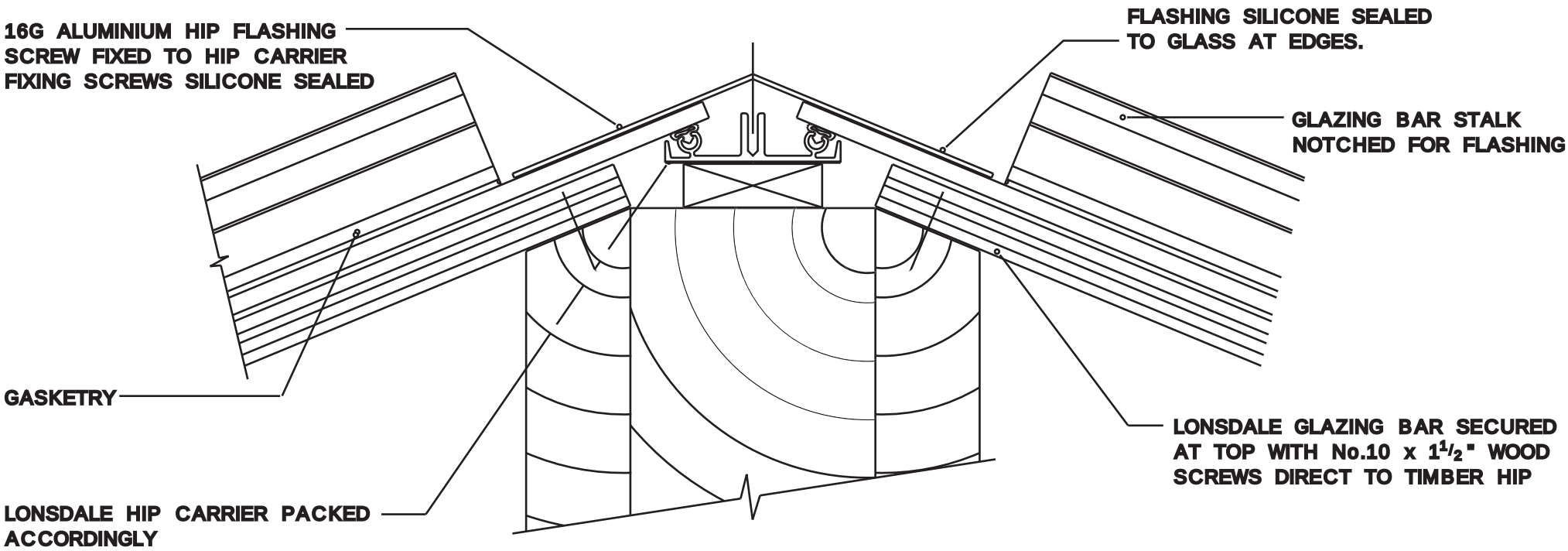
Scale of view 1: 2

SkyGard

Hip detail to timber

CAD Code SKY18TY – also see page 32 CAD Code SKY32TY



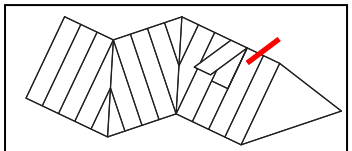


Scale of view 1: 2

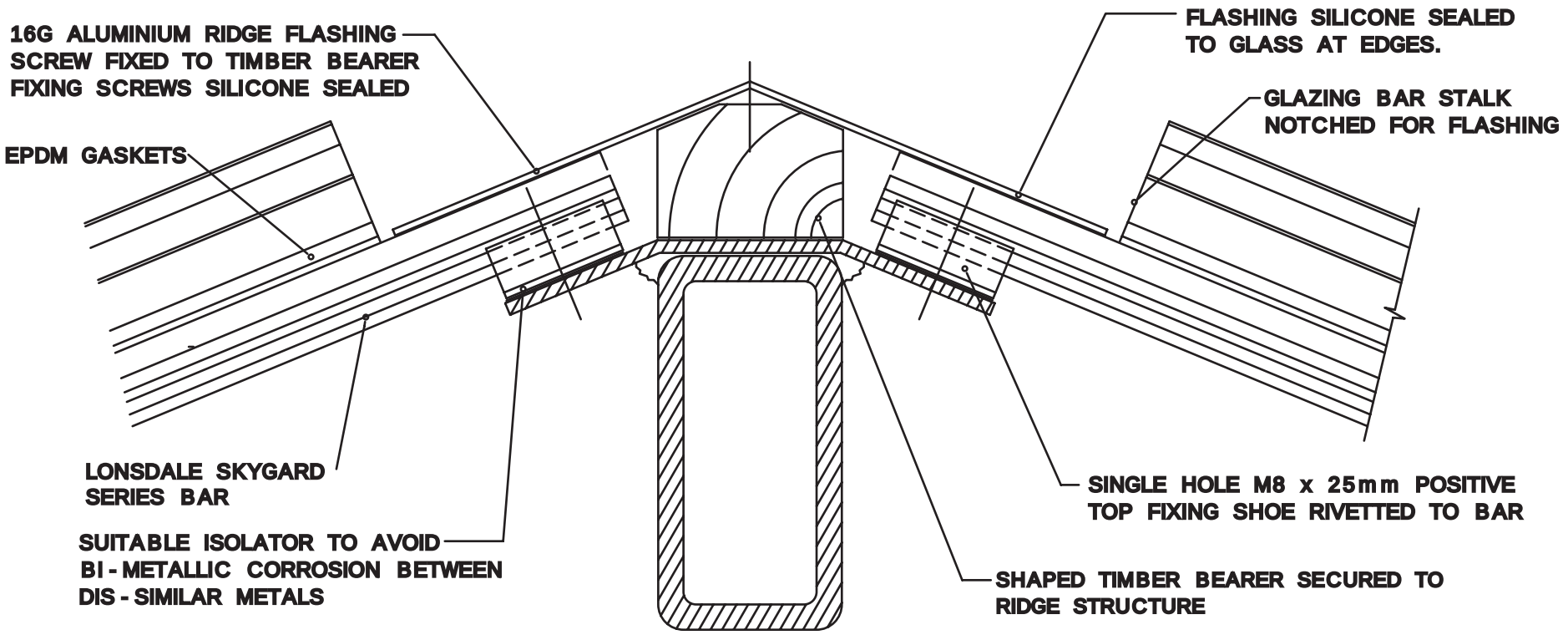
SkyGard

Ridge detail to metal

CAD Code SKY19MY



Application

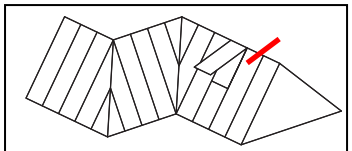


Scale of view 1: 2

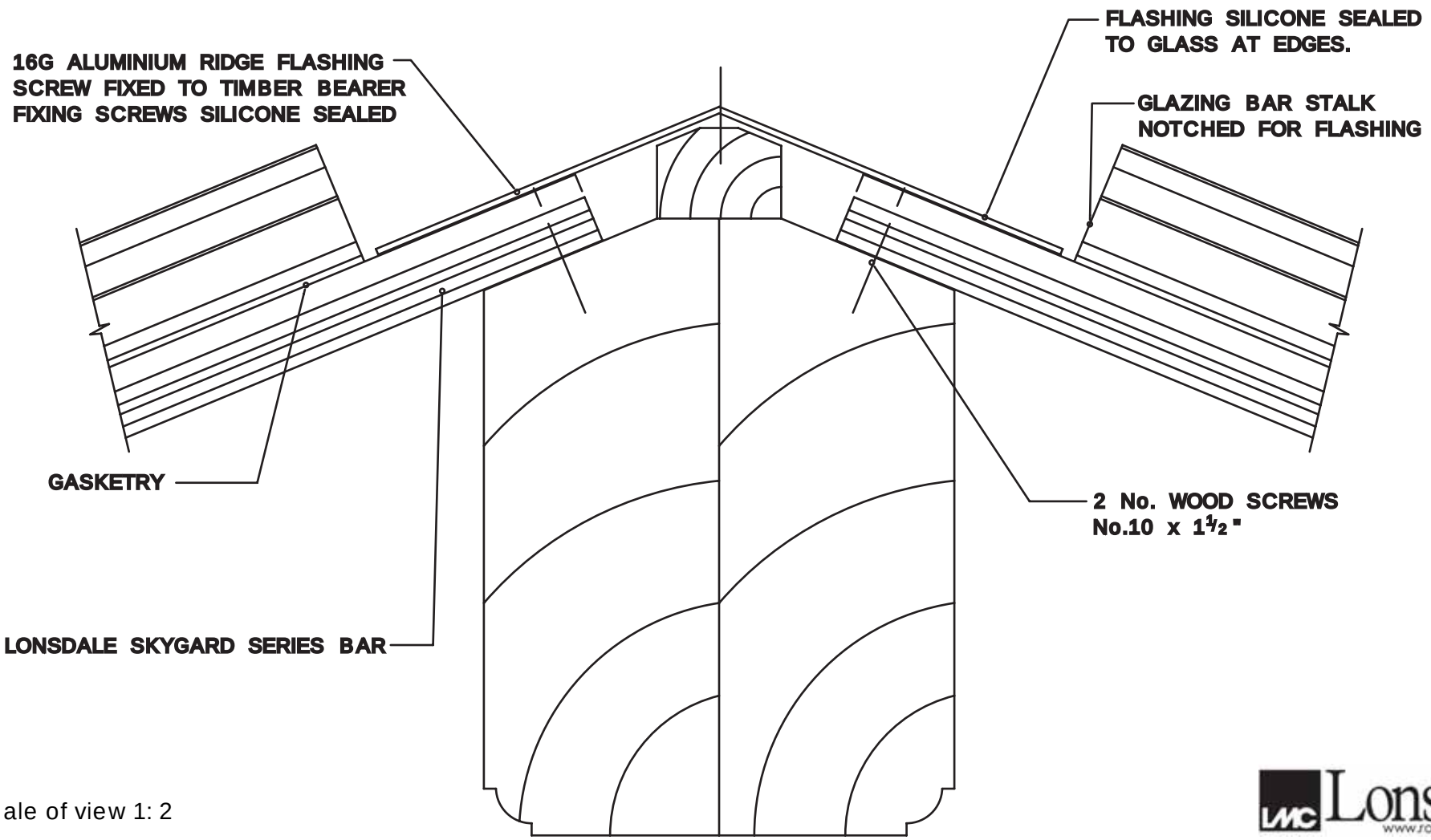
SkyGard

Ridge detail to metal

CAD Code SKY19TY



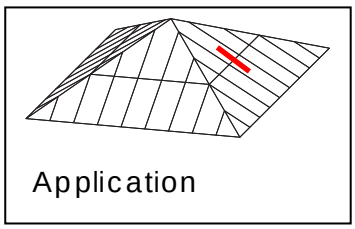
Application



Scale of view 1: 2

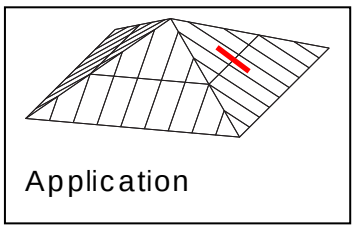
Intermediate roof detail to timber/steel

CAD Code SKY21Y



Tiered roof detail to metal

CAD Code SKY23MY

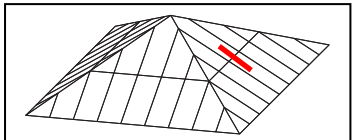


Scale of views 1-2

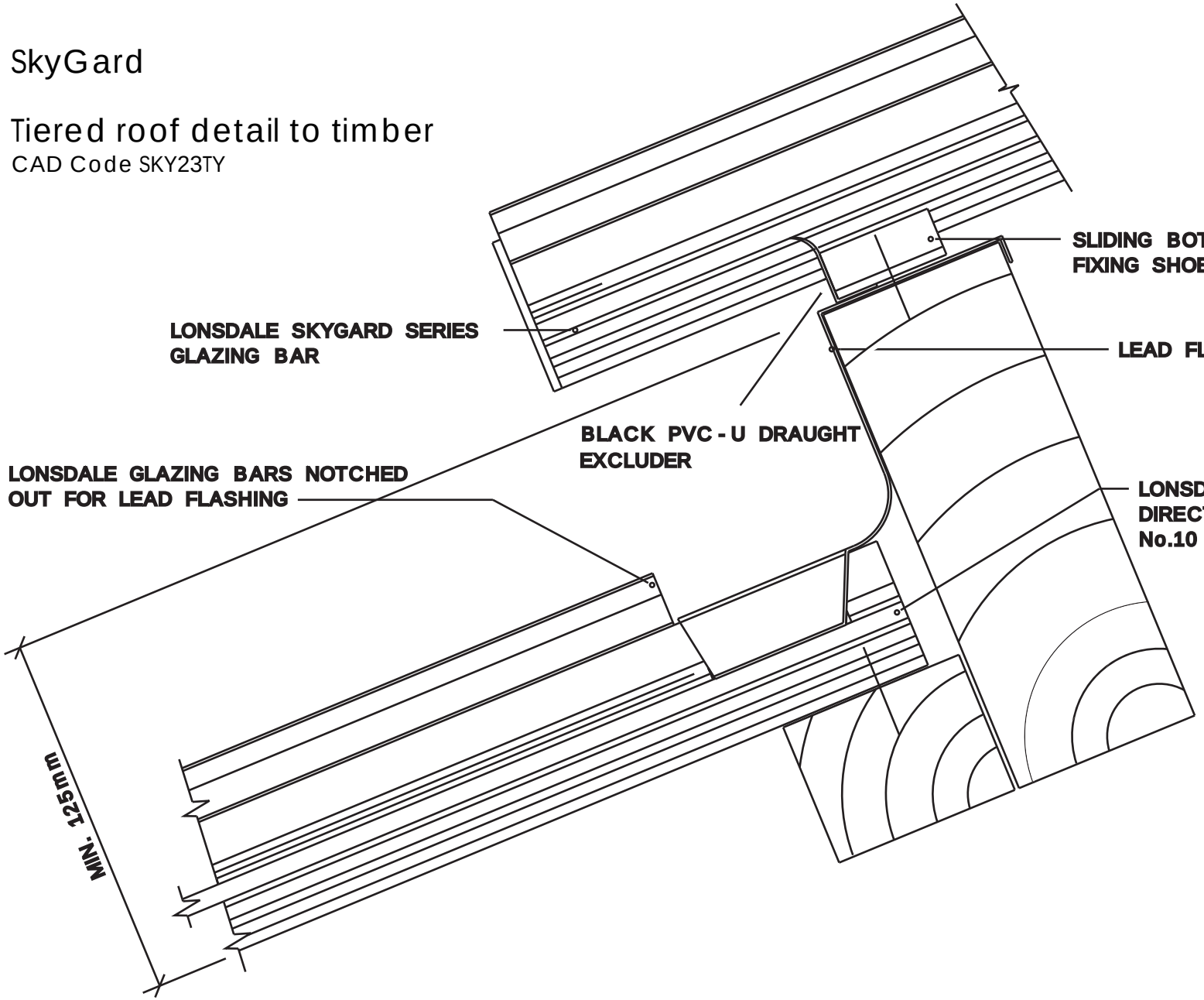
SkyGard

Tiered roof detail to timber

CAD Code SKY23TY



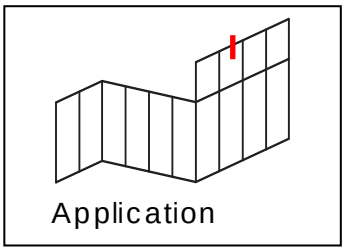
Application

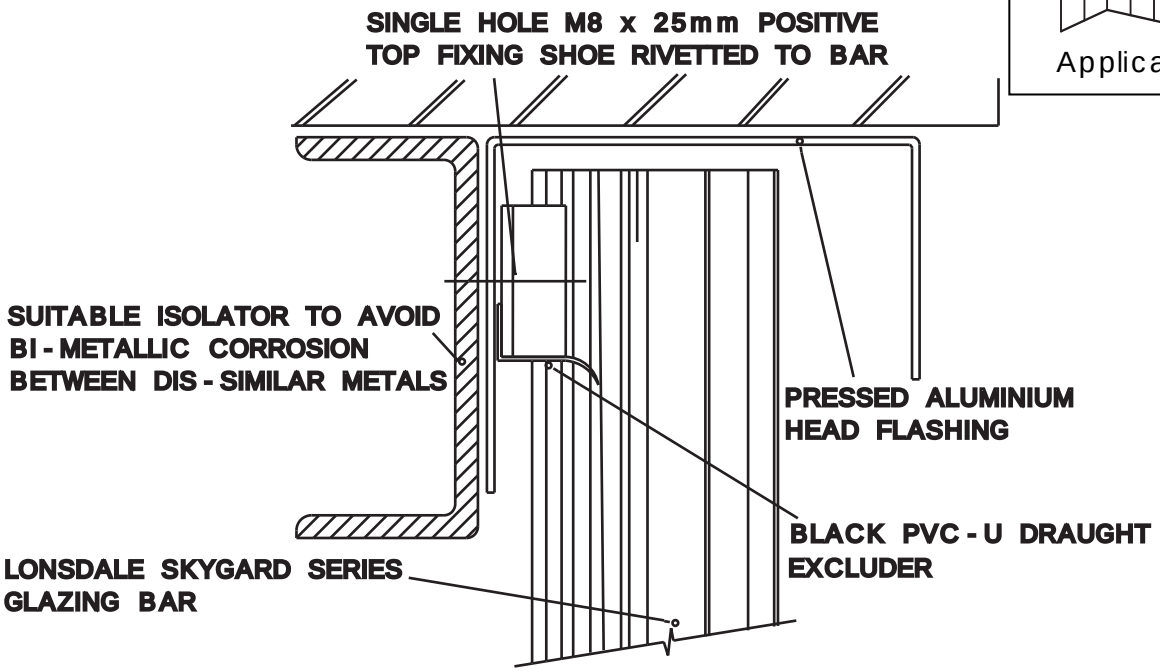


Scale of view 1: 2

Vertical head fixing to steel

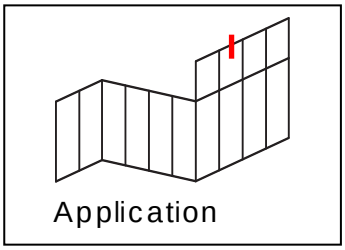
CAD Code SKY24MY

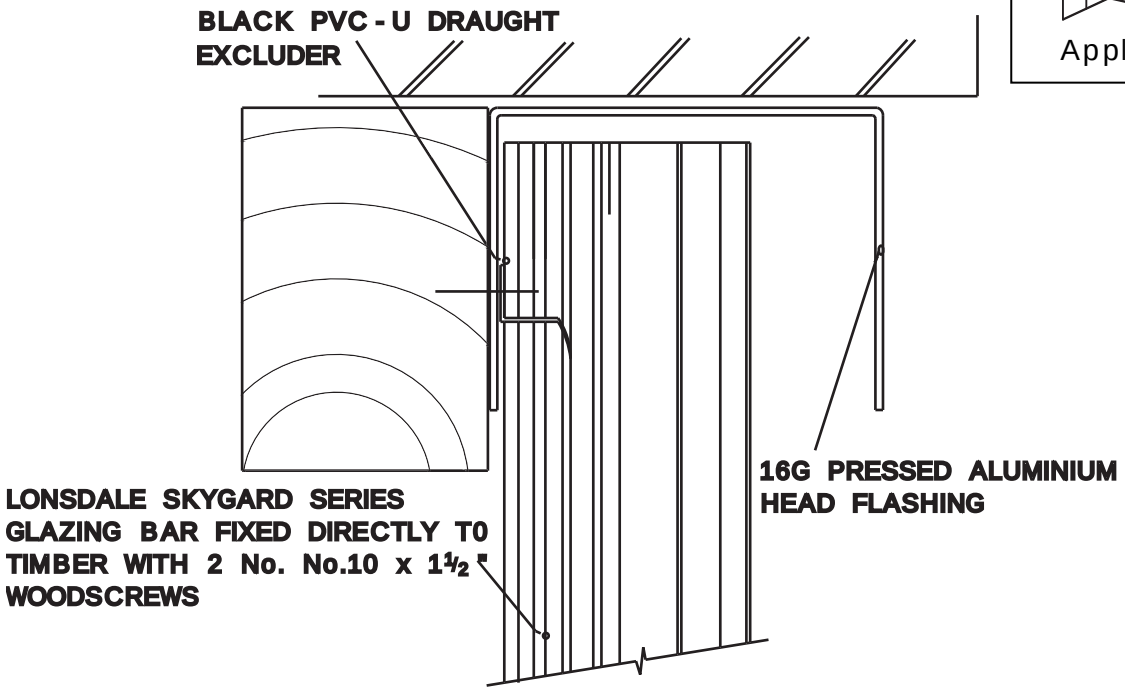




Vertical head fixing to timber

CAD Code SKY24TY

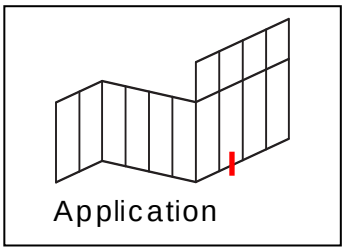


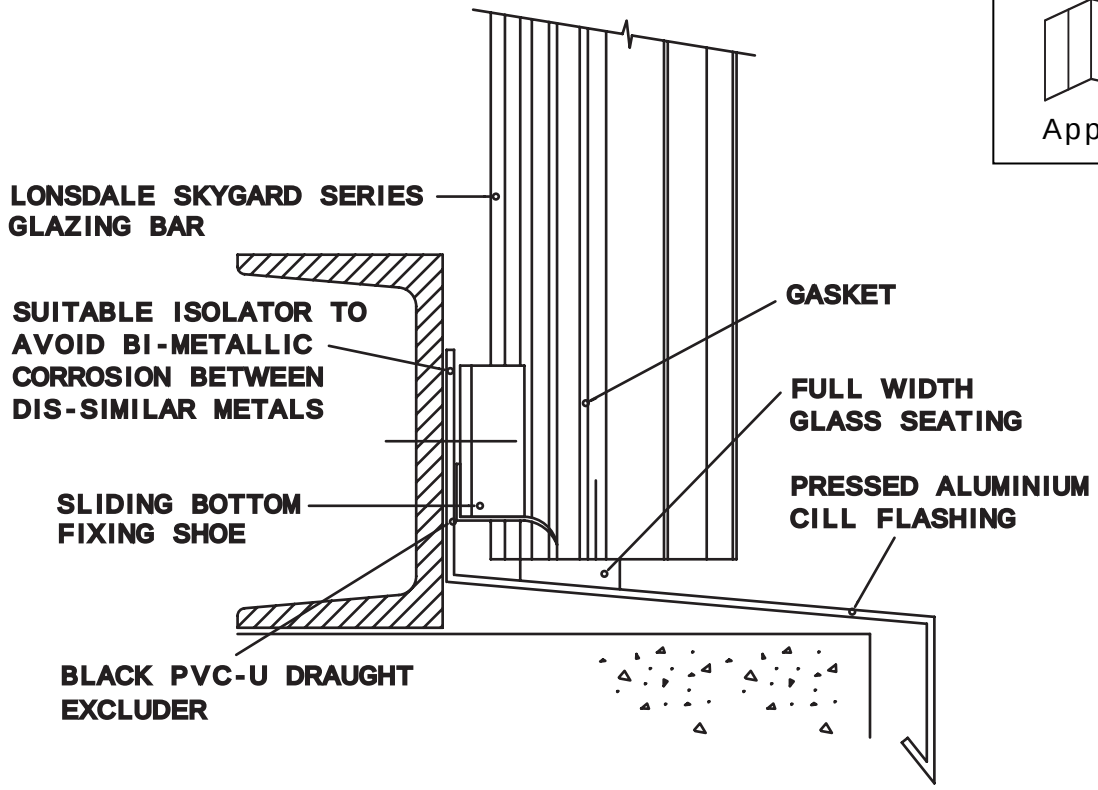


Scale of views 1-2

Vertical cill to metal

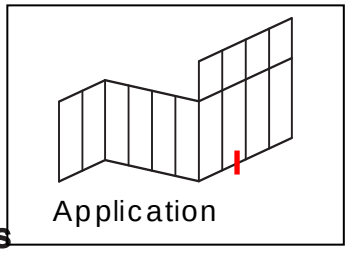
CAD Code SKY25MY

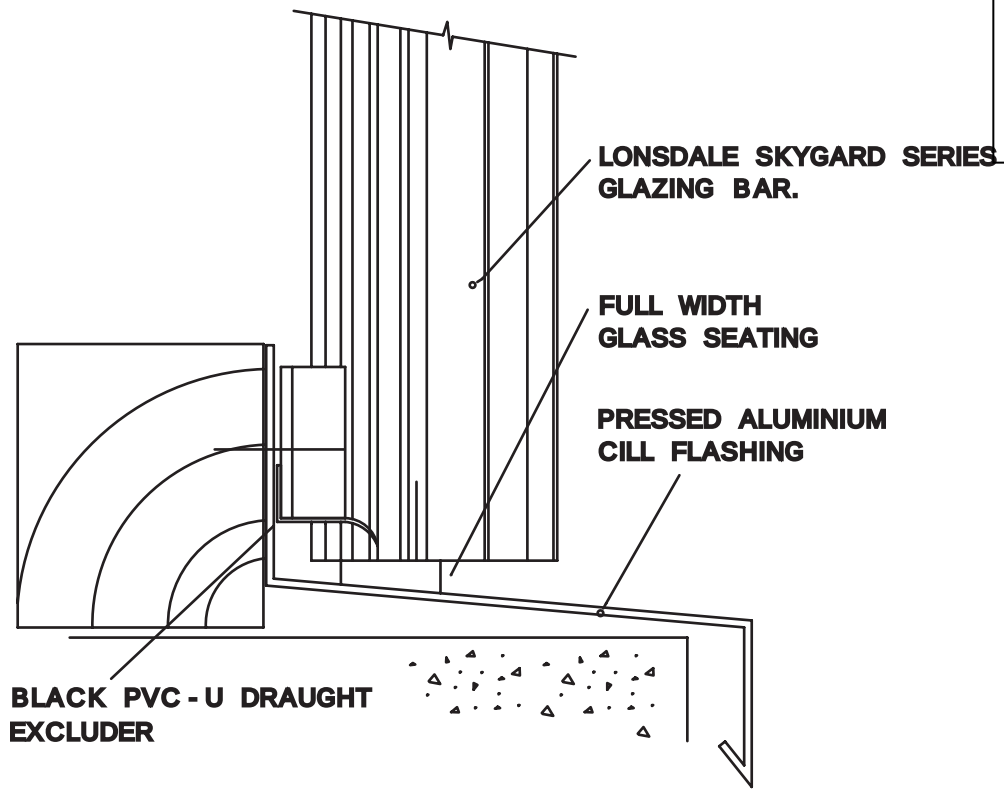




Vertical cill to timber

CAD Code SKY25TY

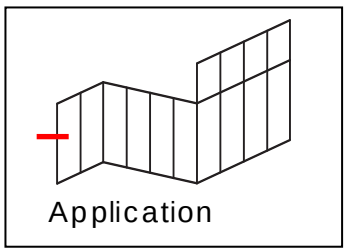


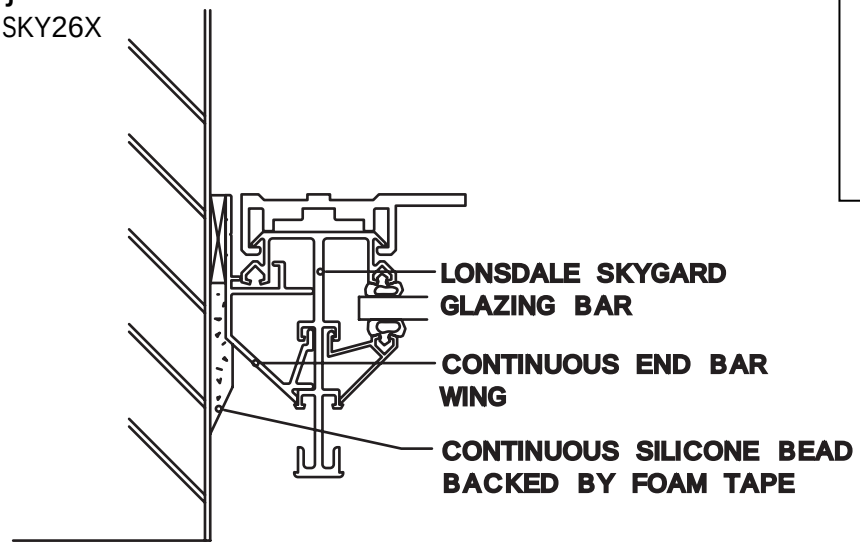


Scale of views 1-2

Vertical jab to brickwork

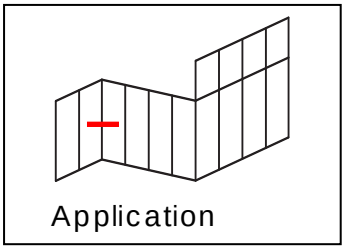
CAD Code SKY26X





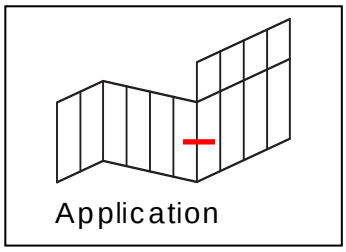
Internal corner to vertical

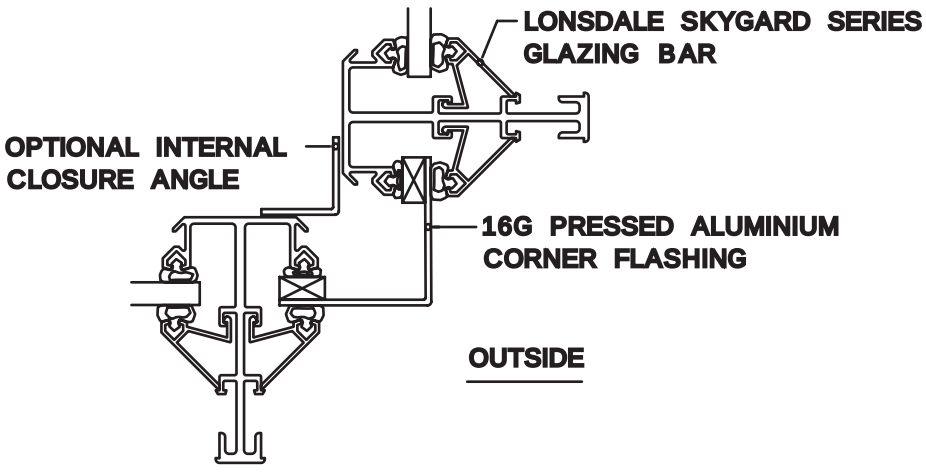
CAD Code SKY27X



External corner to vertical

CAD Code SKY28X

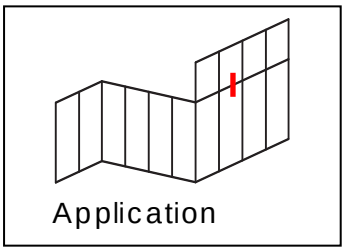




Scale of views 1-2

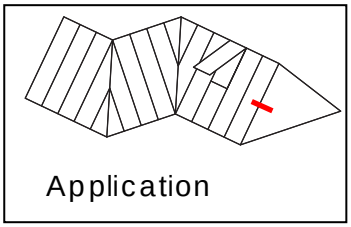
Vertical intermediate detail

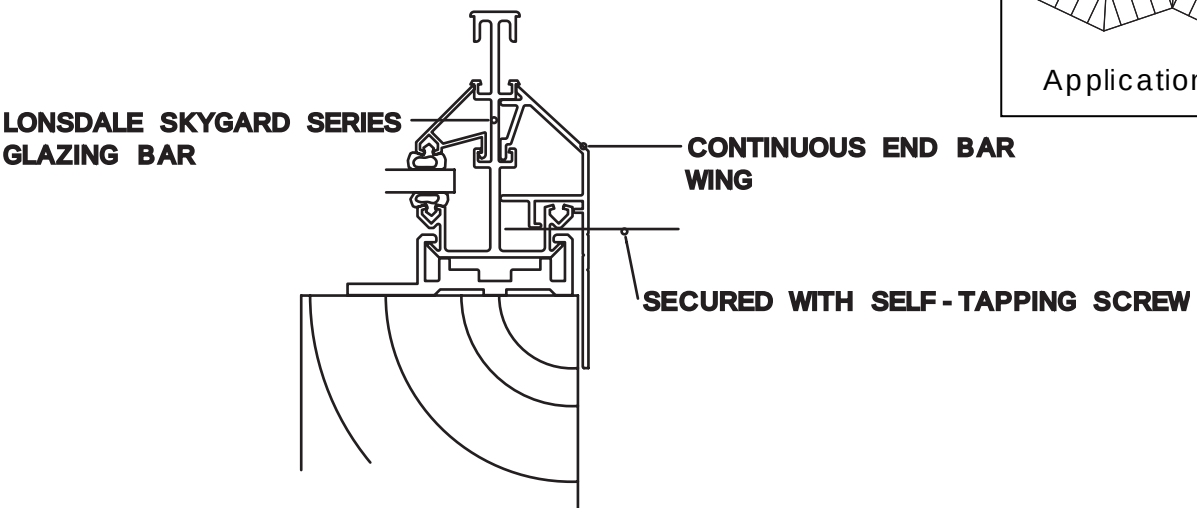
CAD Code SKY29MY



Verge

CAD Code SKY31X



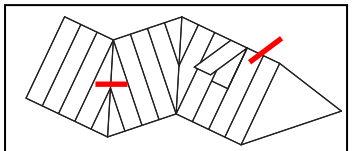


Scale of views 1-2

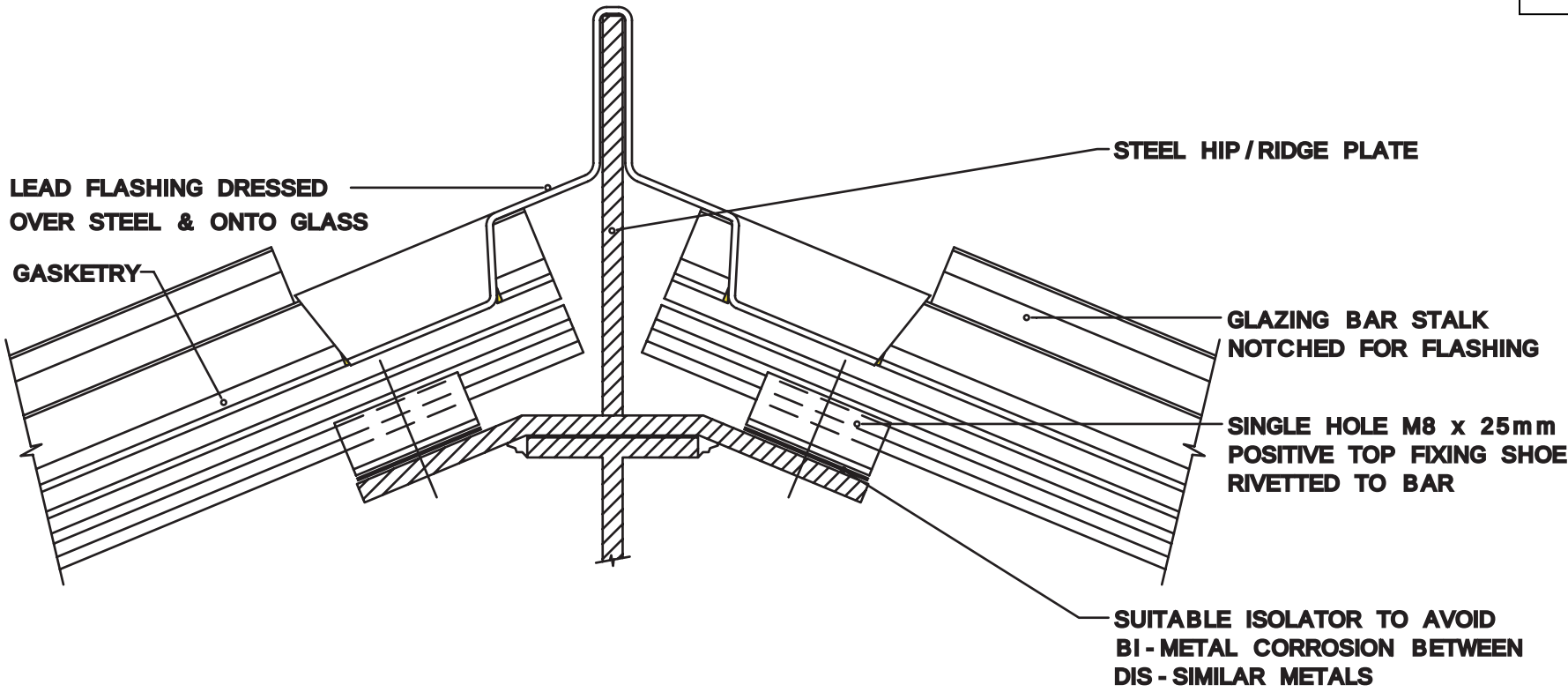
SkyGard

Lead flashing to steel ridge/hip

CAD Code SKY32MY – see also page 21 CAD Code SKY18MY



Application

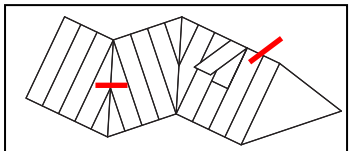


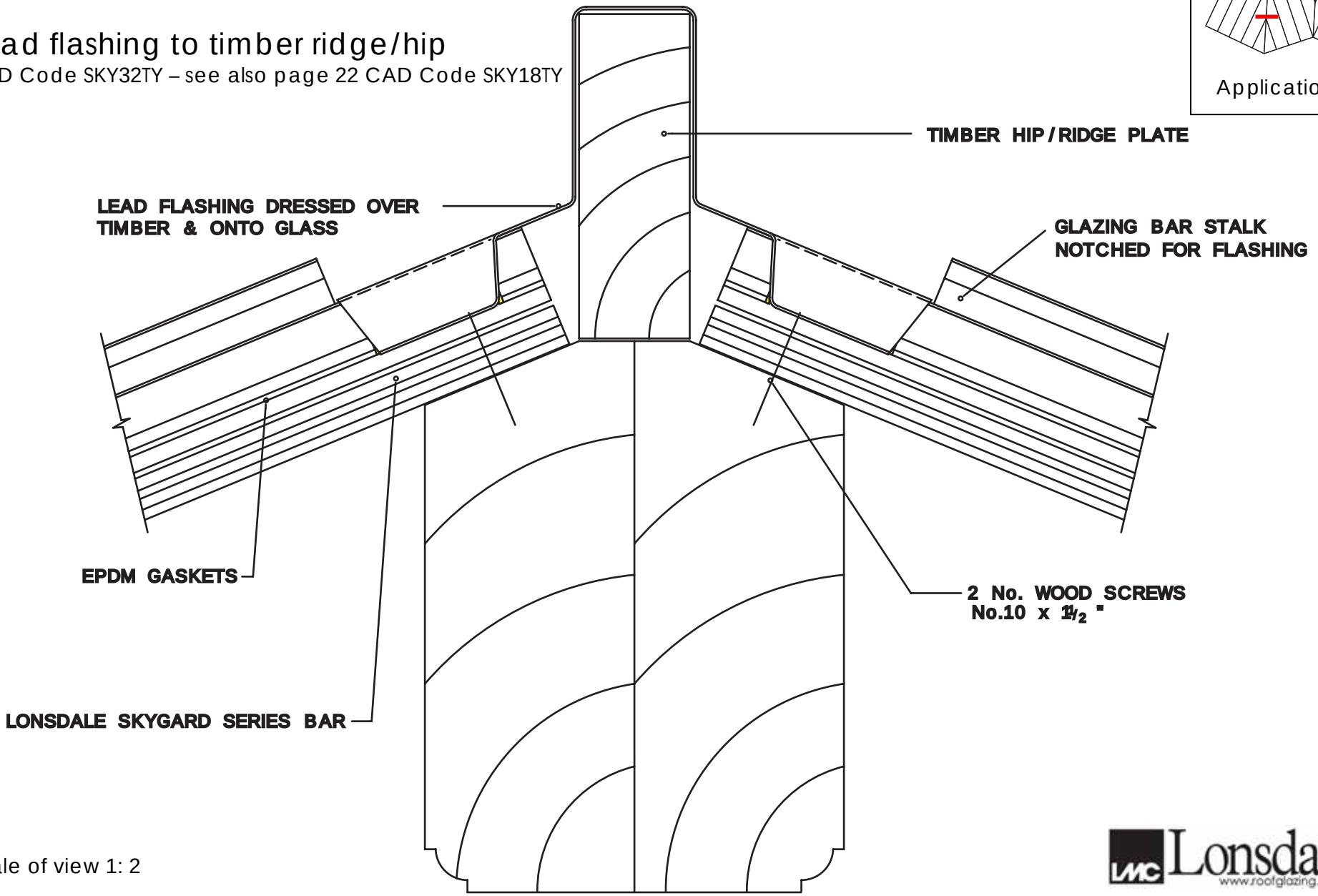
Scale of view 1: 2

SkyGard

Lead flashing to timber ridge/hip

CAD Code SKY32TY – see also page 22 CAD Code SKY18TY





Scale of view 1: 2

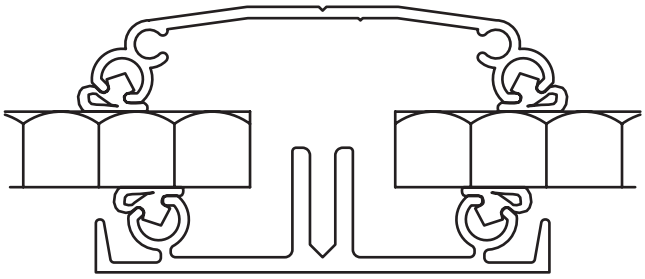
PlasGard

PlasGard offers a range of glazing bars and accessories to suit solid and multi-wall polycarbonates and plastics. Approved by major sheet manufacturers, PlasGard incorporates the essential design features recommended for two edge support glazing. PlasGard also offers an economical" capped " bar alternative to SkyGard for single or double glazing with glass.

- Screw down aluminium cappings to safely clamp sheeting.
- Quick and easy to use.
- Economy without sacrifice to quality or performance.
- Gaskets chemically compatible with polycarbonate.

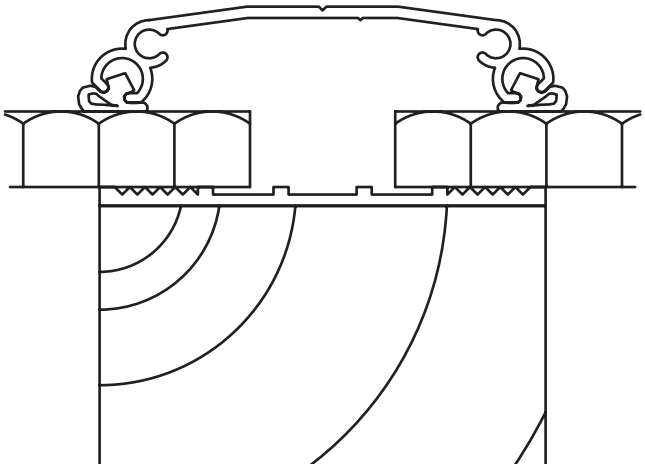
PLM15 Profile

CAD Code PLM15



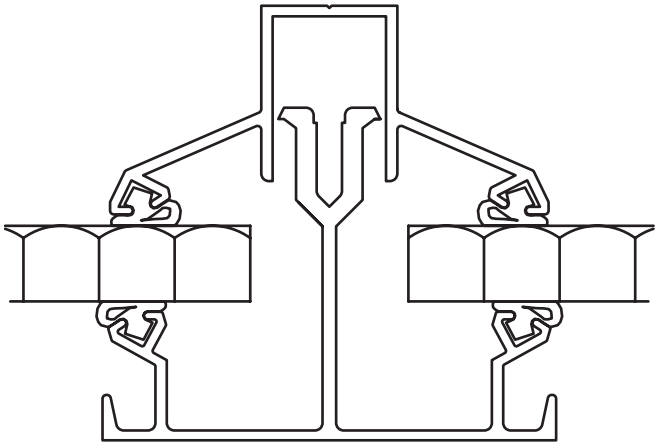
PLM15R Profile

CAD Code PLM15R



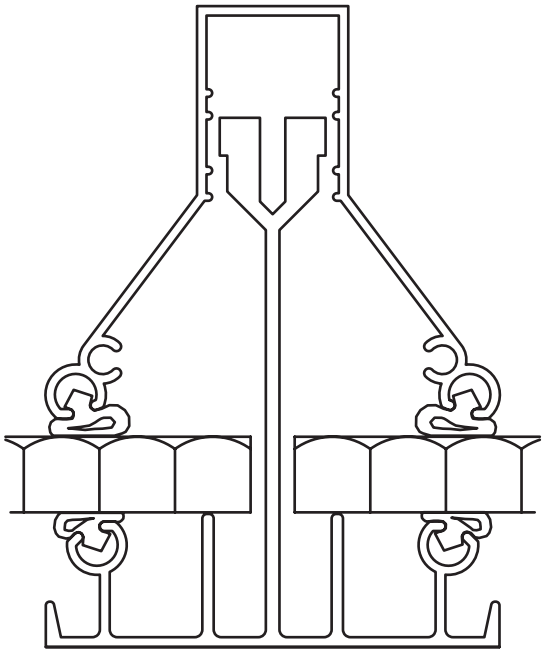
PLM17 Profile – TO SPECIAL ORDER

CAD Code PLM17



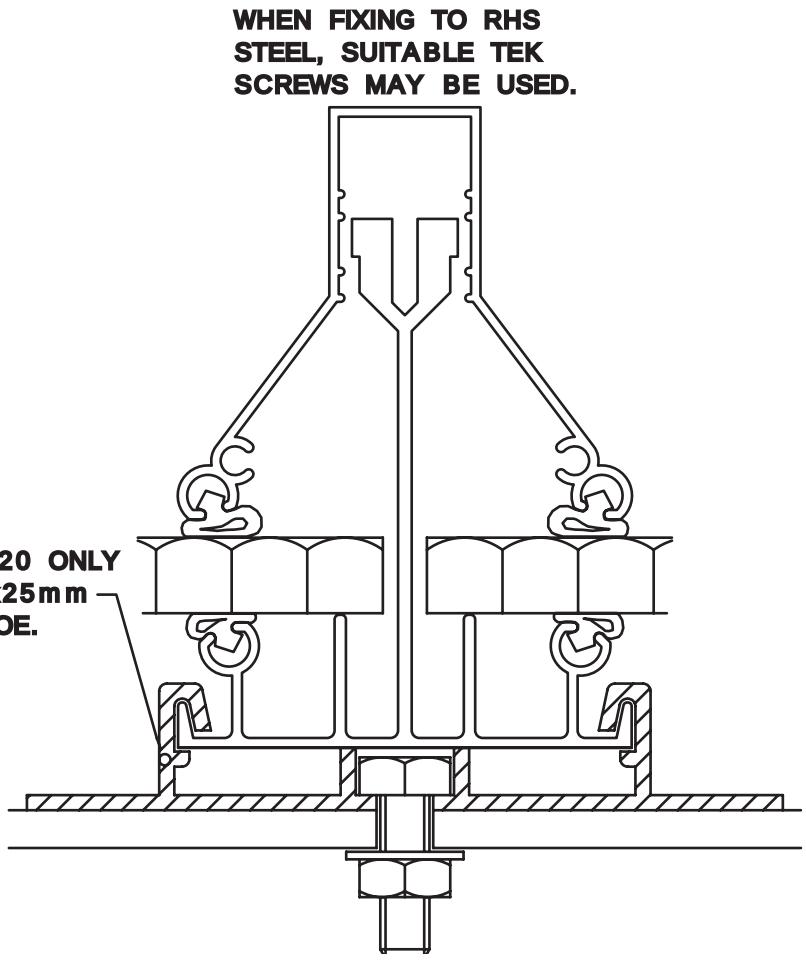
PLM20 Profile

CAD Code PLA20



Metal fixing shoe

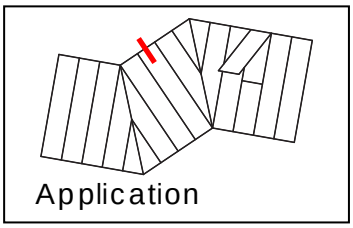
Shown with PLM20 profile
Shoe also fits PLM17 profile
CAD Code PLAMSF



Scale of all profiles 1:1

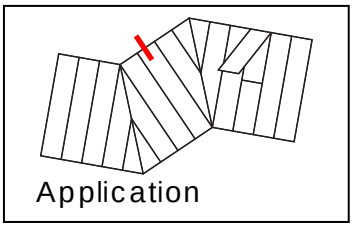
Top fixing to metal

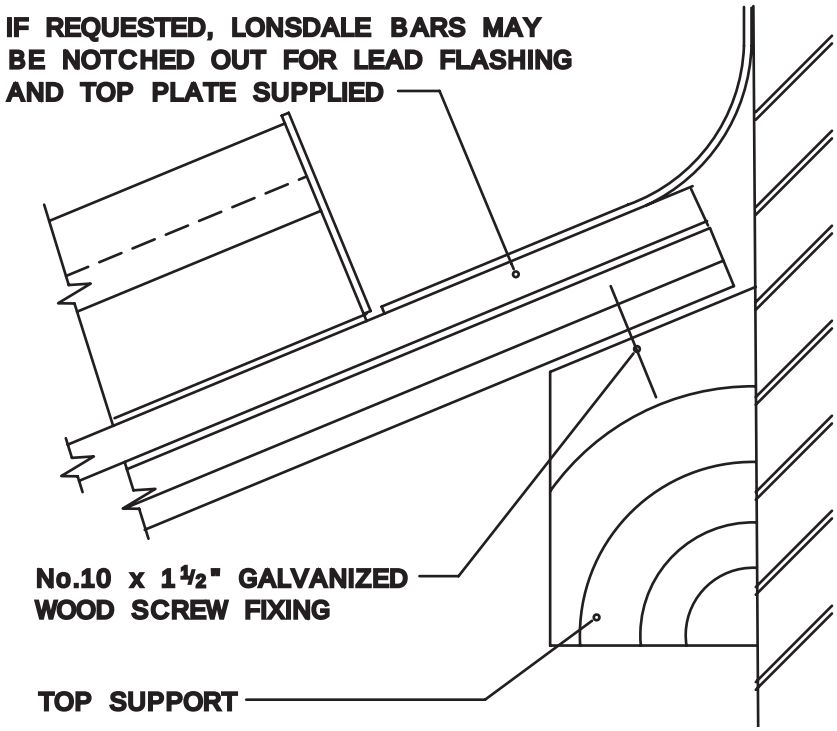
CAD Code PLA11MY



Top fixing to timber

CAD Code PLA11TY

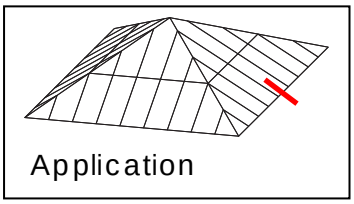


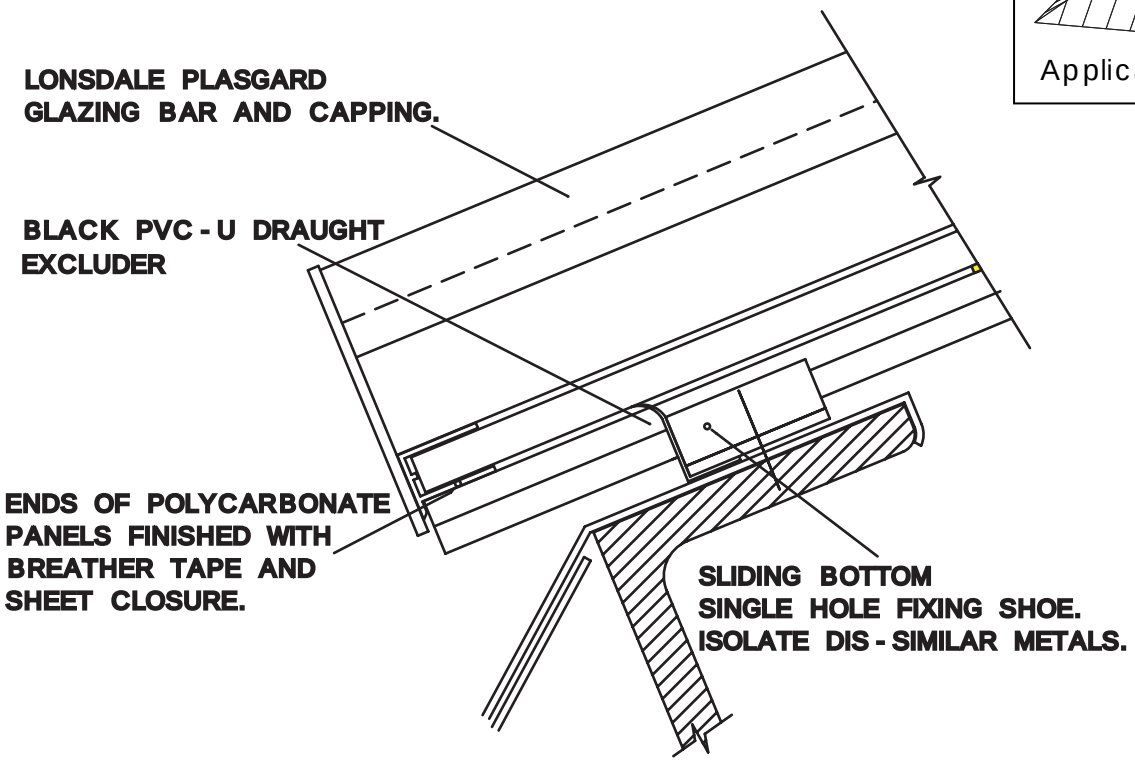


Scale of views 1-2

Eaves fixing to metal

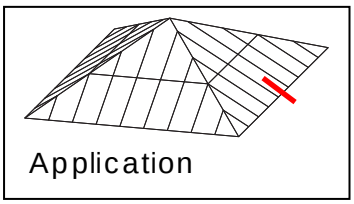
CAD Code PLA12MY

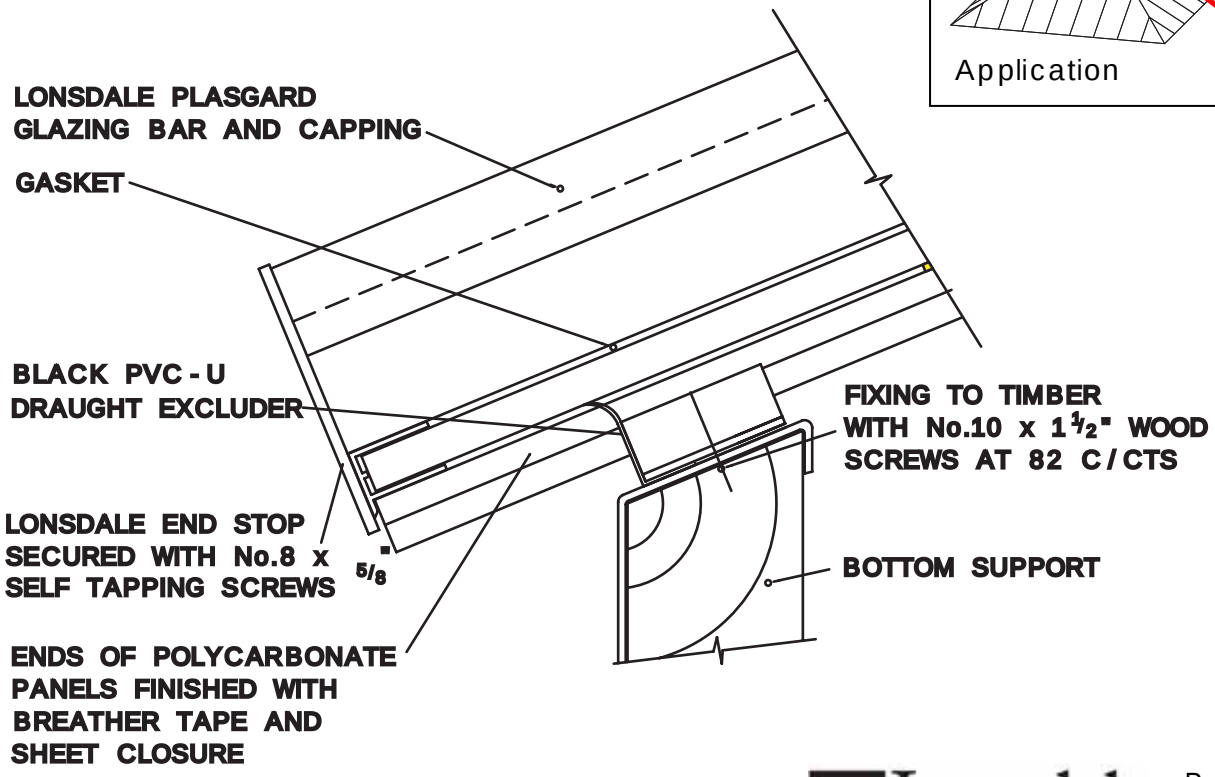




Eaves fixing to timber

CAD Code PLA12TY



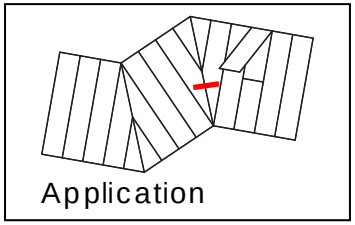


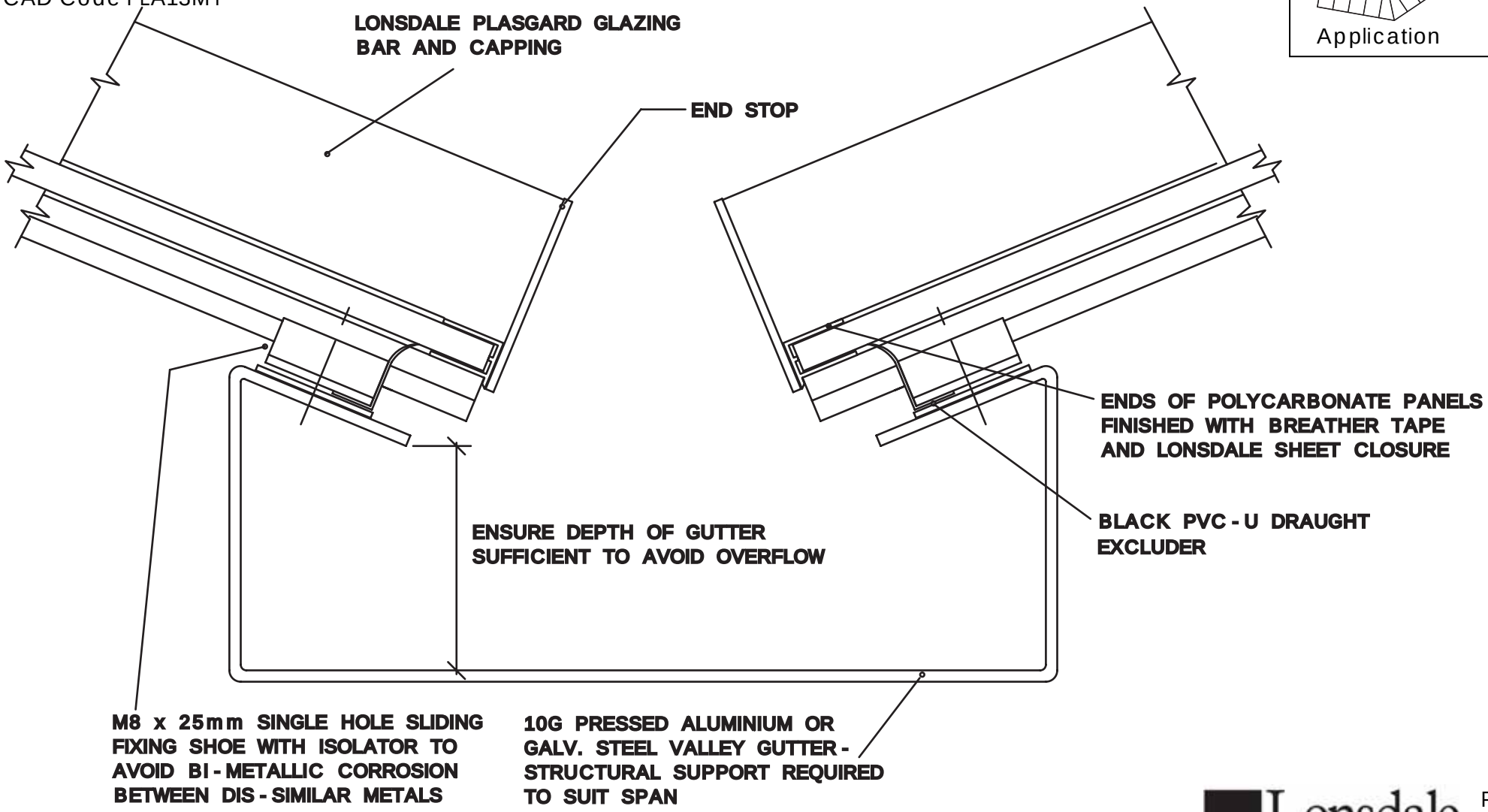
Scale of views 1-2

PlasGard

Valley gutter aluminium or steel

CAD Code PLA13MY

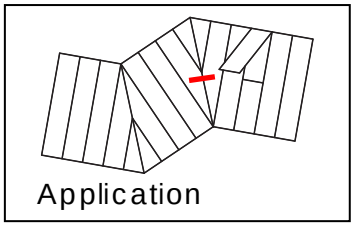




Scale of view 1: 2

PlasGard - Valley gutter detail lead lined to timber

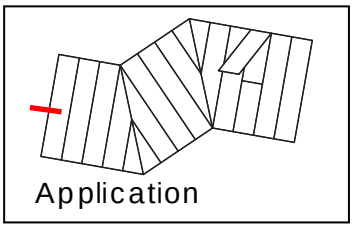
CAD Code PLA13TY

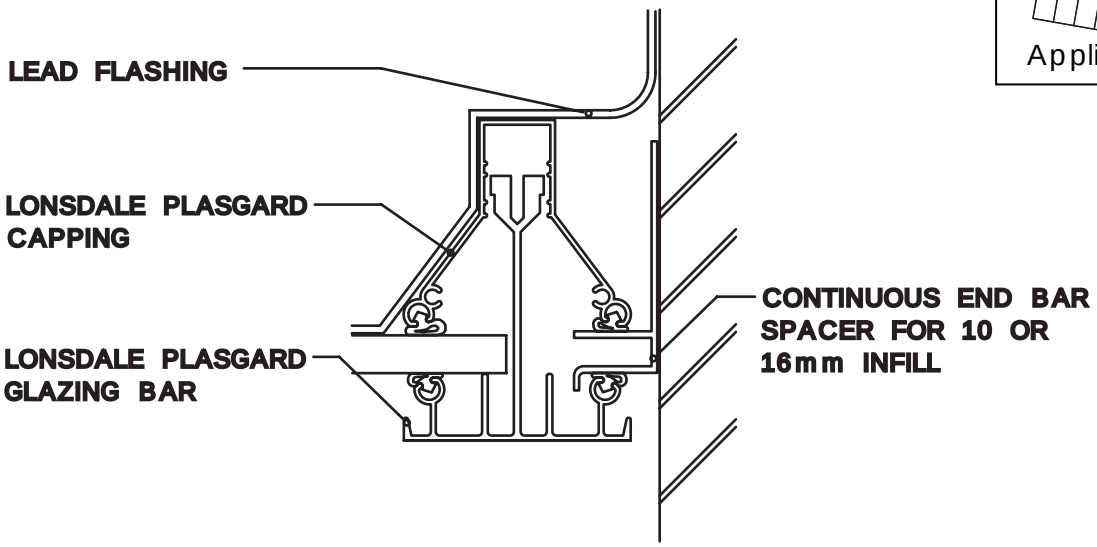


Scale of view 1: 2

Parapet to brickwork

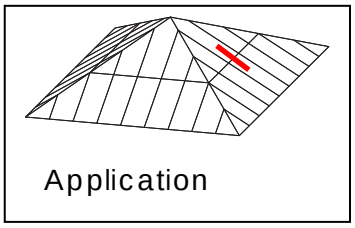
CAD Code PLA14X

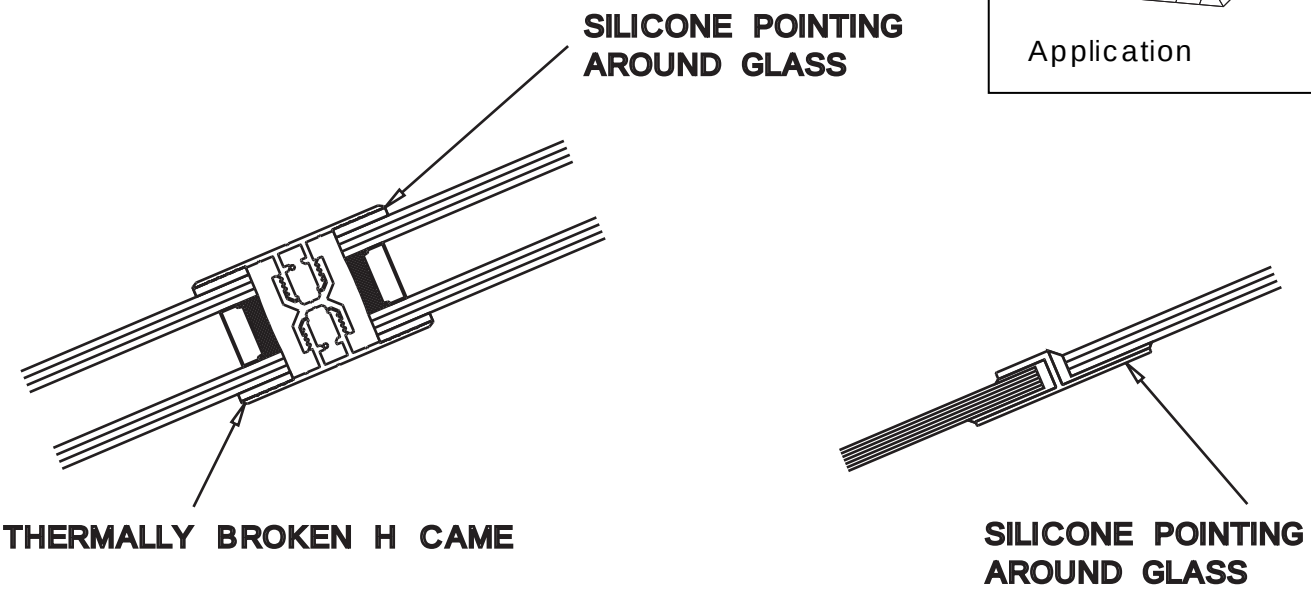




Glass jointing – single glazing

CAD Code 22Y



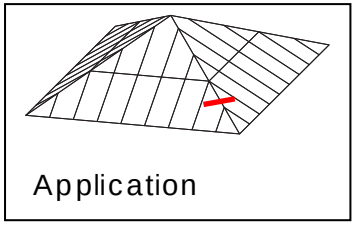


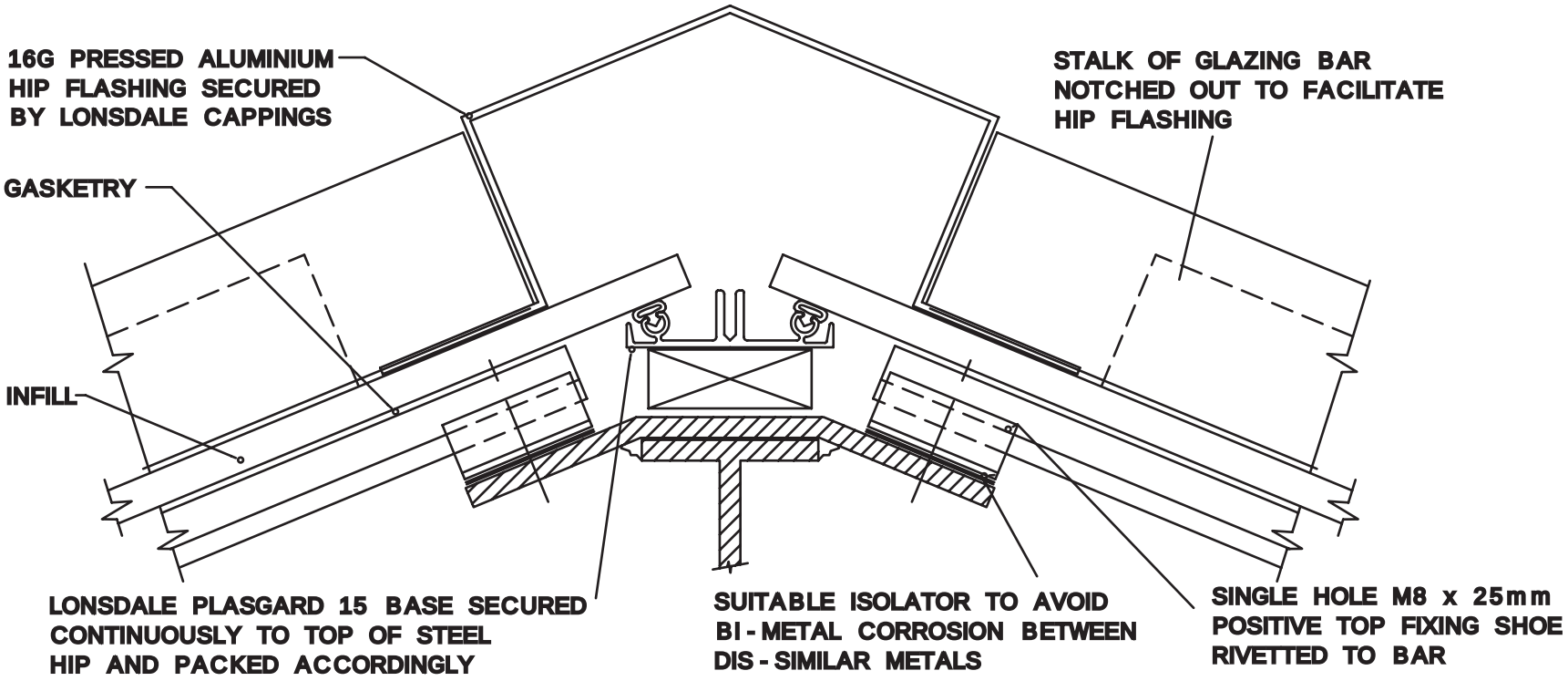
Scale of views 1-2

PlasGard

Hip detail to metal

CAD Code PLA18MY



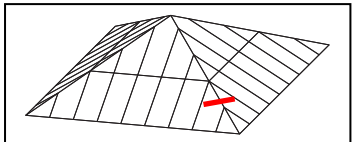


Scale of view 1: 2

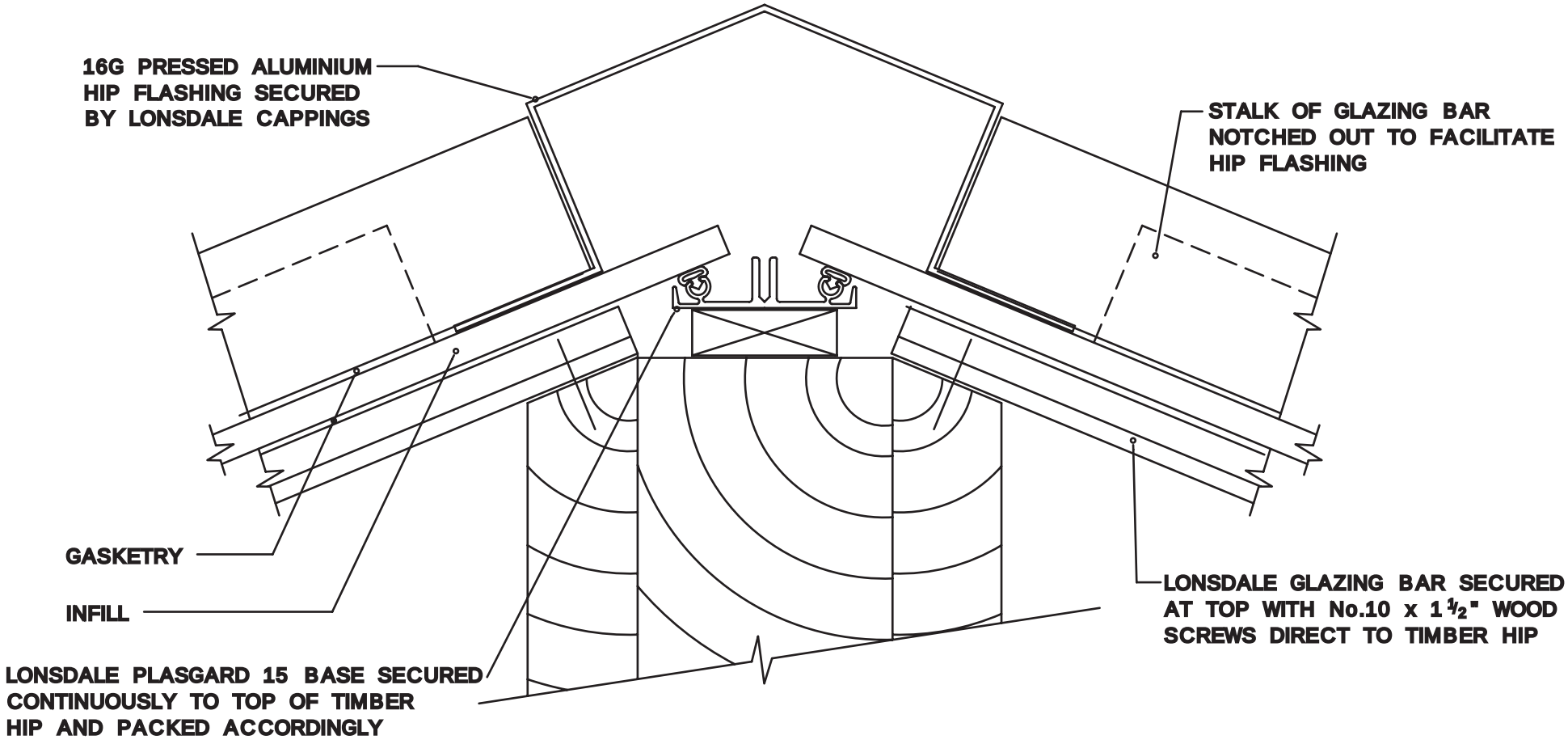
PlasGard

Hip detail to timber

CAD Code PLA18TY



Application

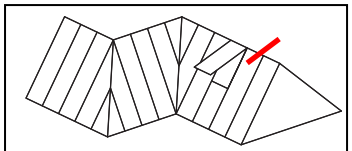


Scale of view 1: 2

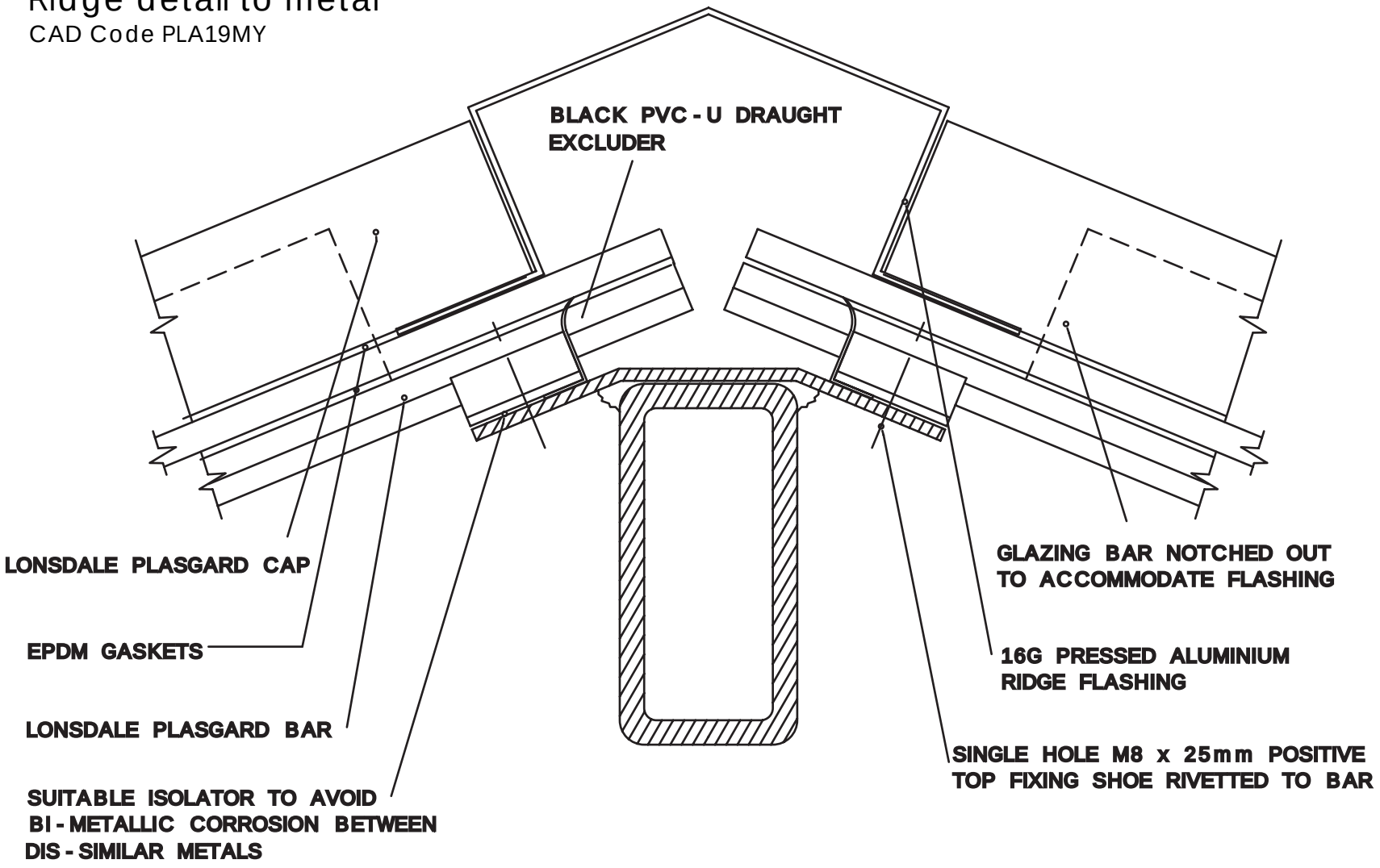
PlasGard

Ridge detail to metal

CAD Code PLA19MY



Application

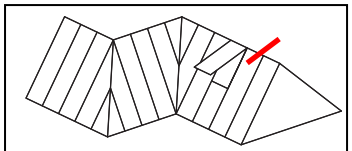


Scale of view 1: 2

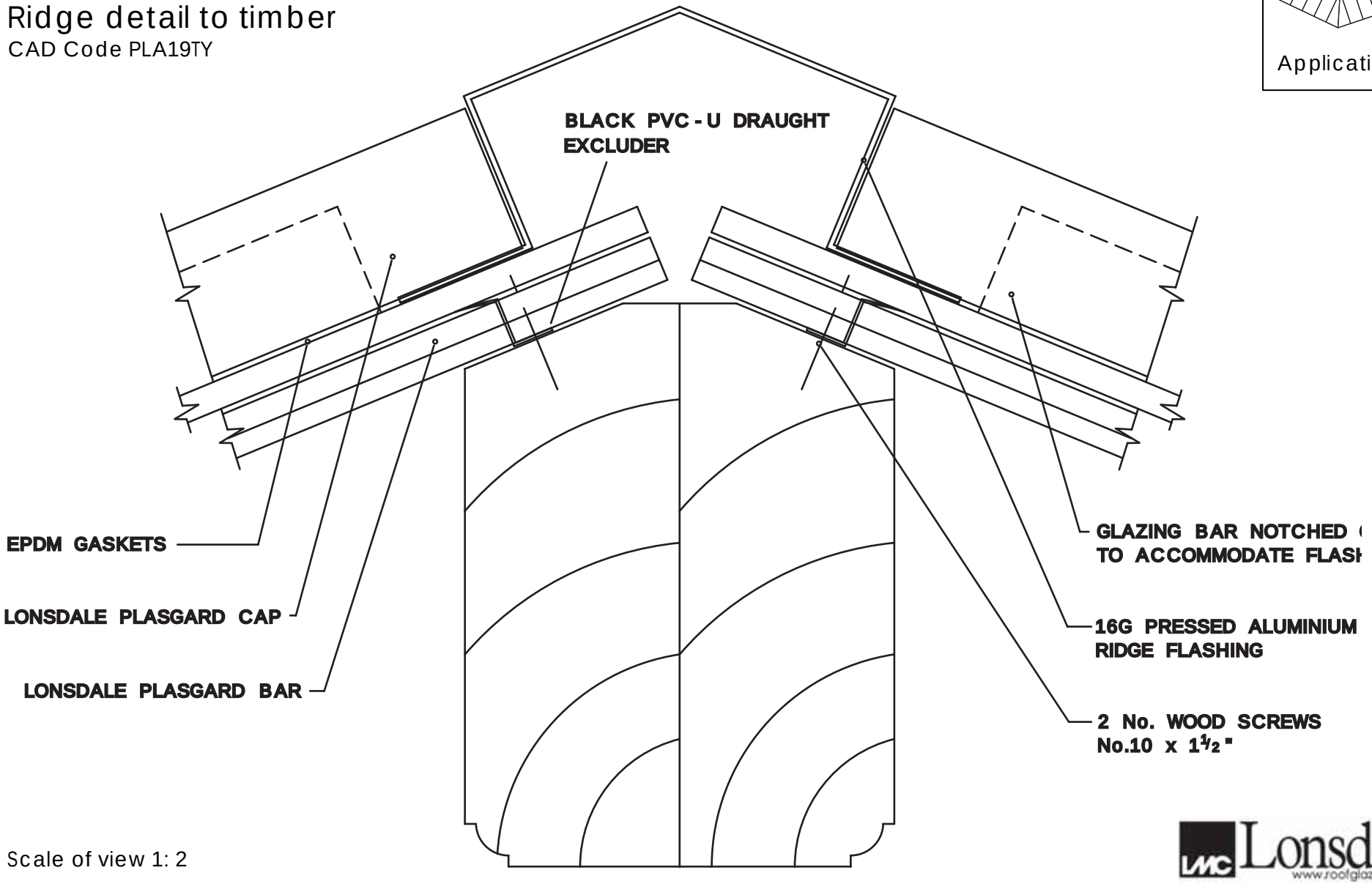
PlasGard

Ridge detail to timber

CAD Code PLA19TY



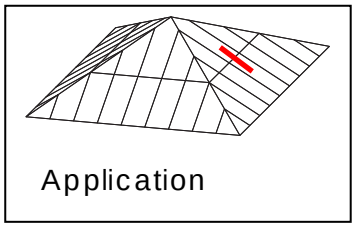
Application

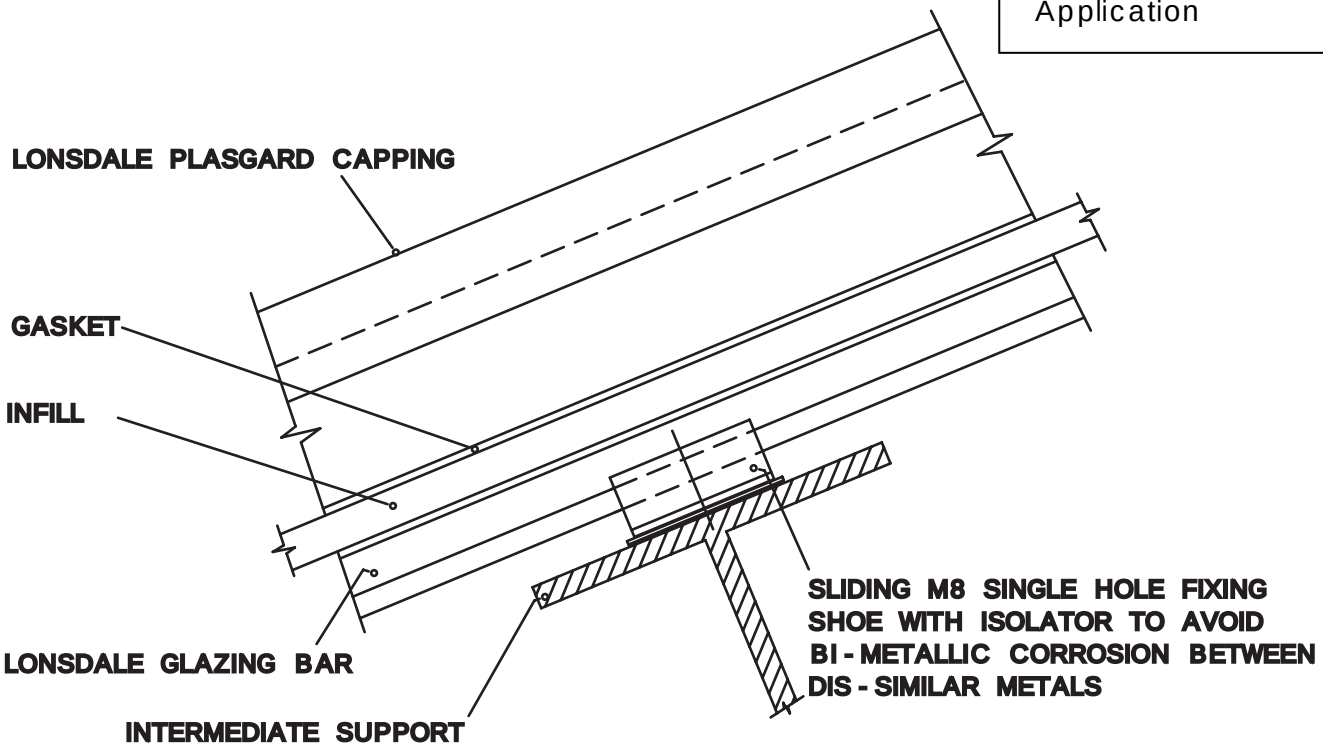


Scale of view 1: 2

Intermediate roof detail to metal

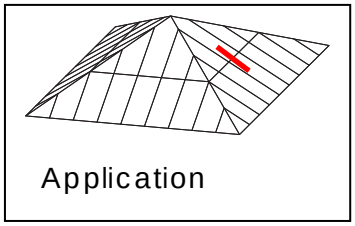
CAD Code PLA21MY

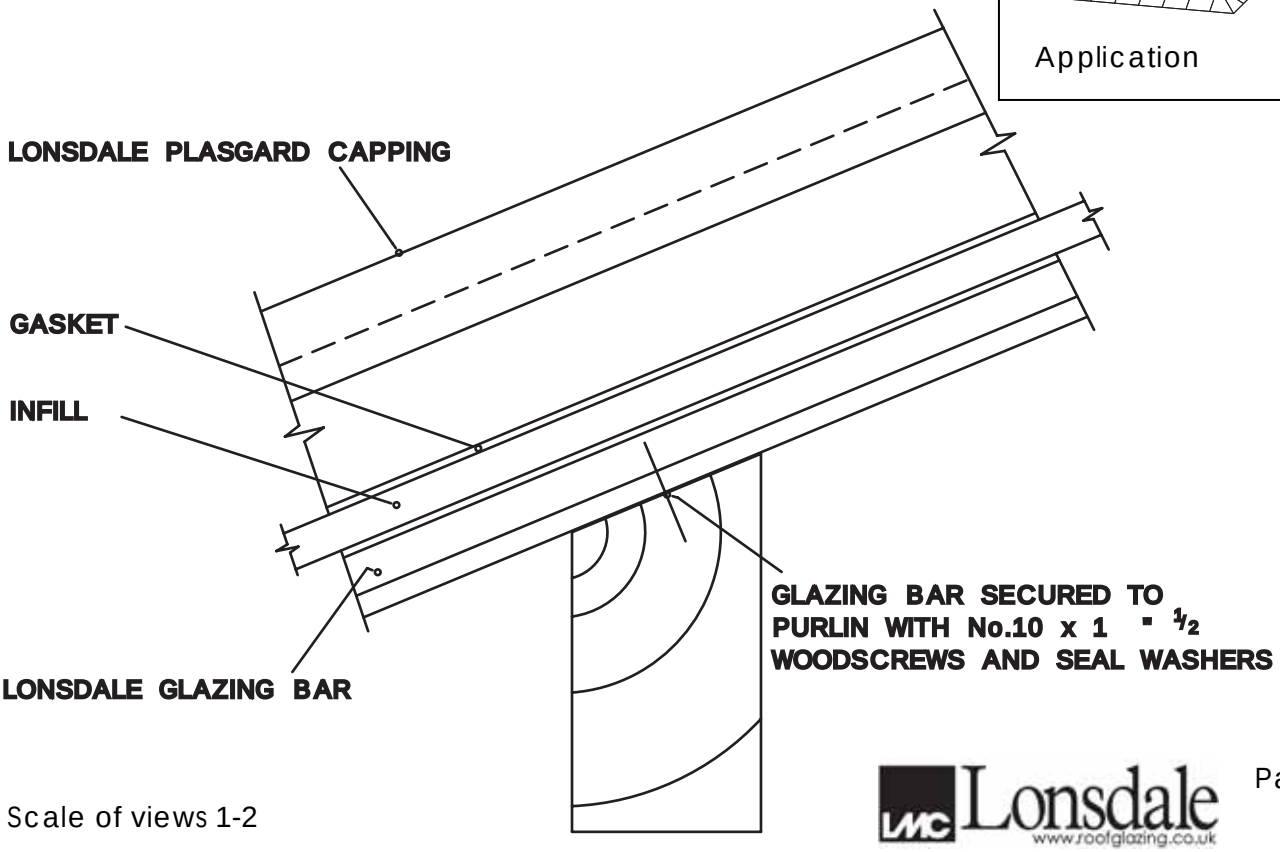




Intermediate roof detail to timber

CAD Code PLA21TY



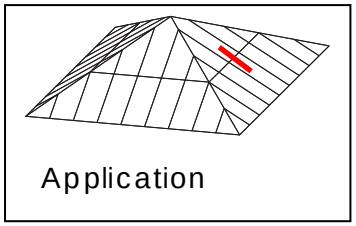


Scale of views 1-2

PlasGard

Tiered roof detail to metal

CAD Code PLA23MY

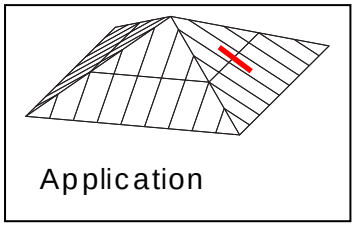


Scale of view 1: 2

PlasGard

Tiered roof detail to timber

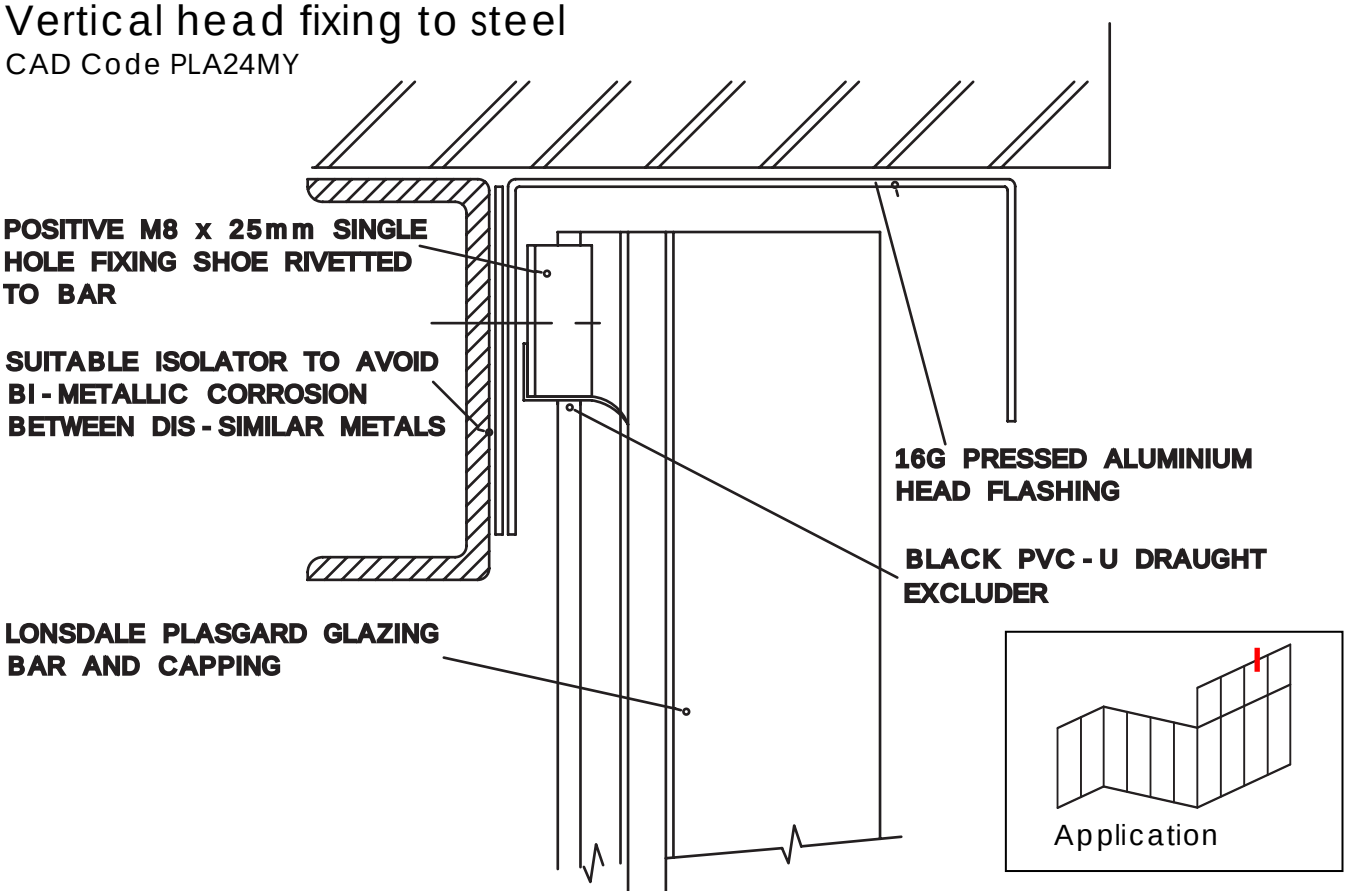
CAD Code PLA23TY



Scale of view 1: 2

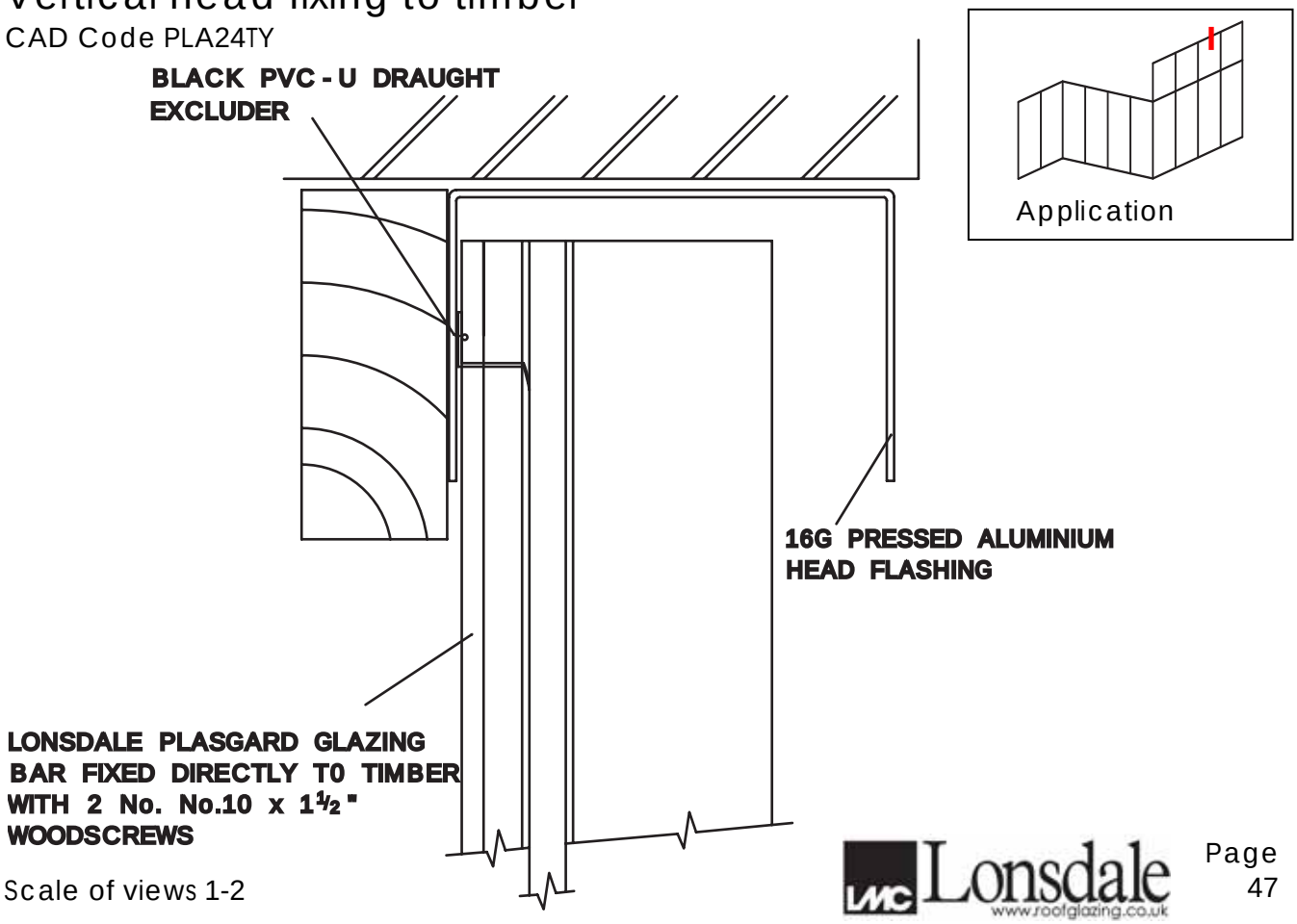
Vertical head fixing to steel

CAD Code PLA24MY



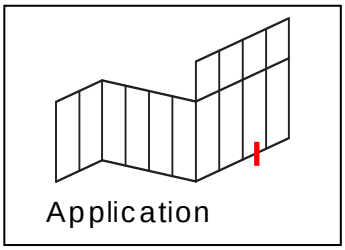
Vertical head fixing to timber

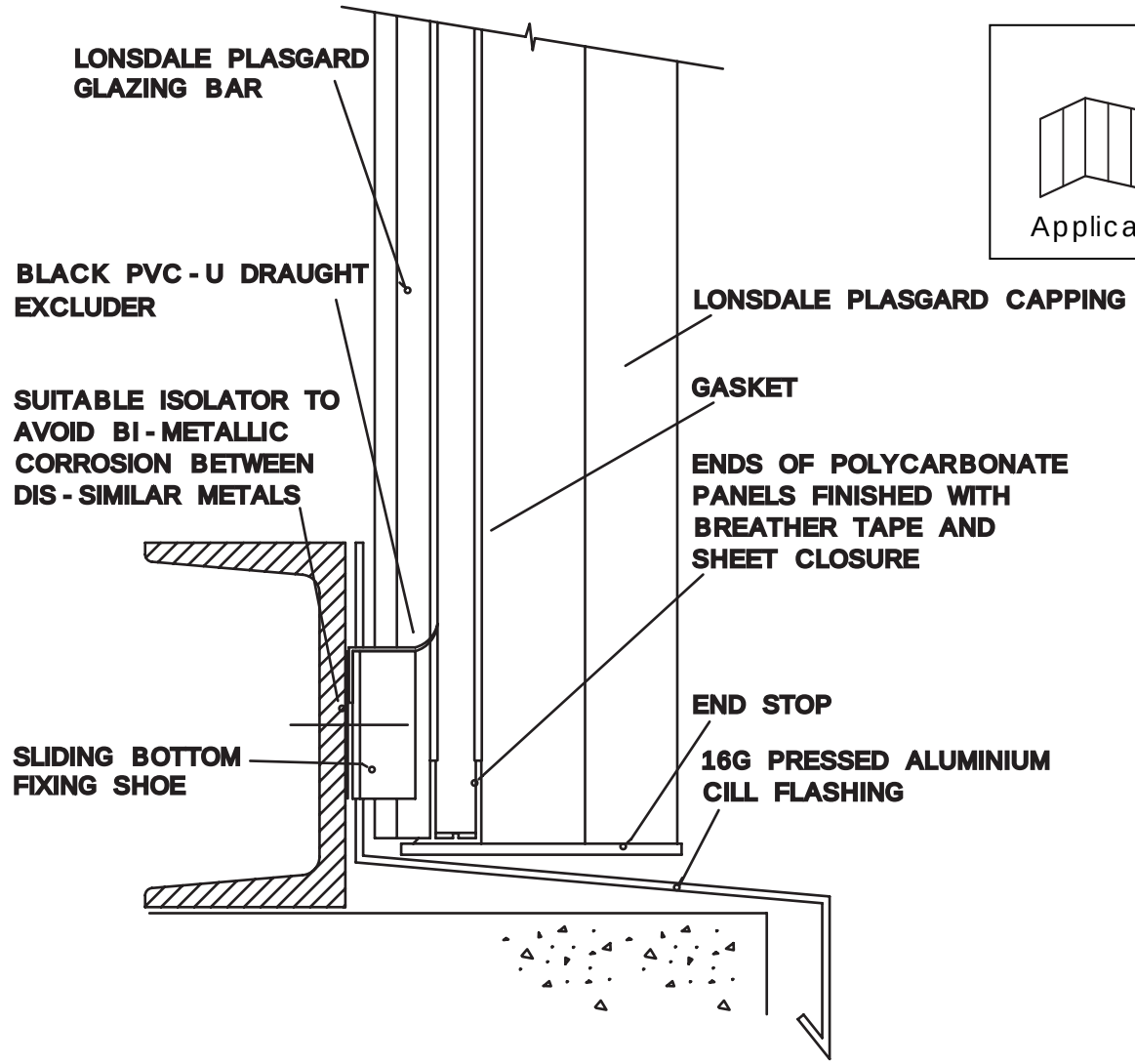
CAD Code PLA24TY



Scale of views 1-2

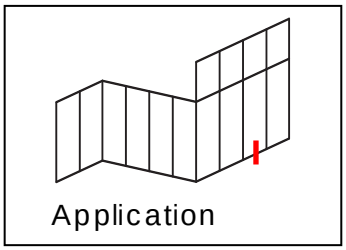
PlasGard - Vertical cill to metal CAD Code PLA25MY





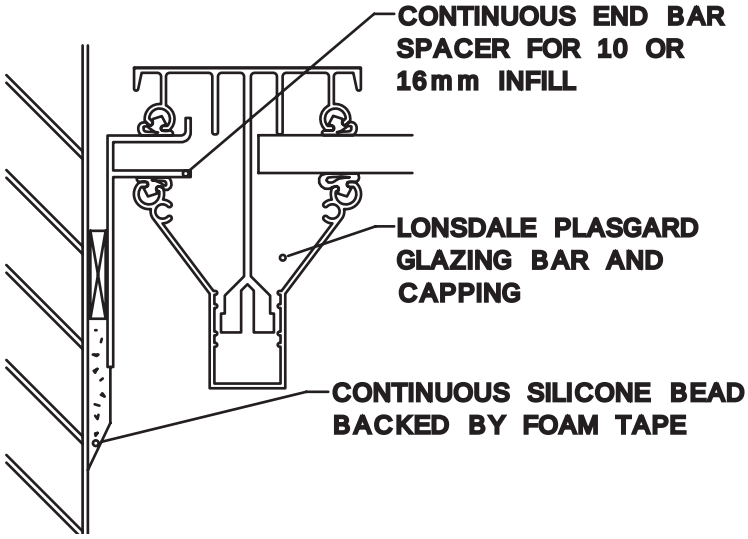
Vertical cill to timber

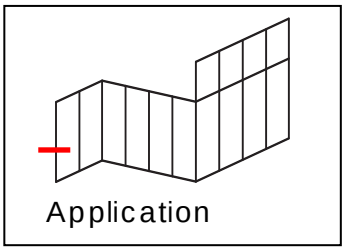
CAD Code PLA25TY



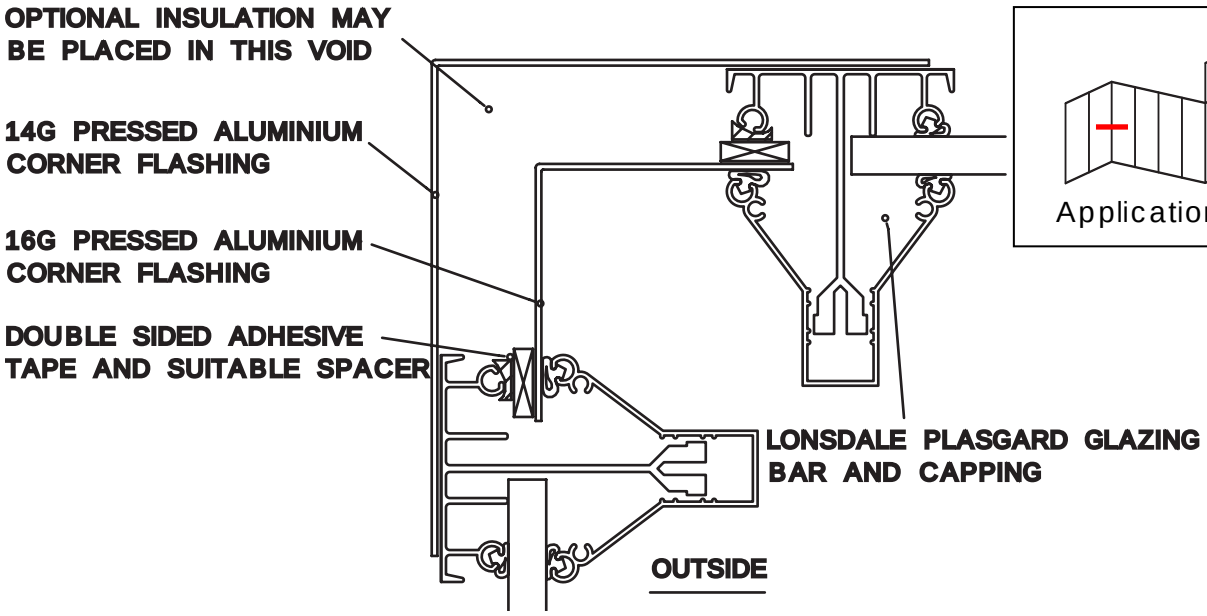
Scale of views 1-2

PlasGard – Vertical jab to brickwork CAD Code PLA26X

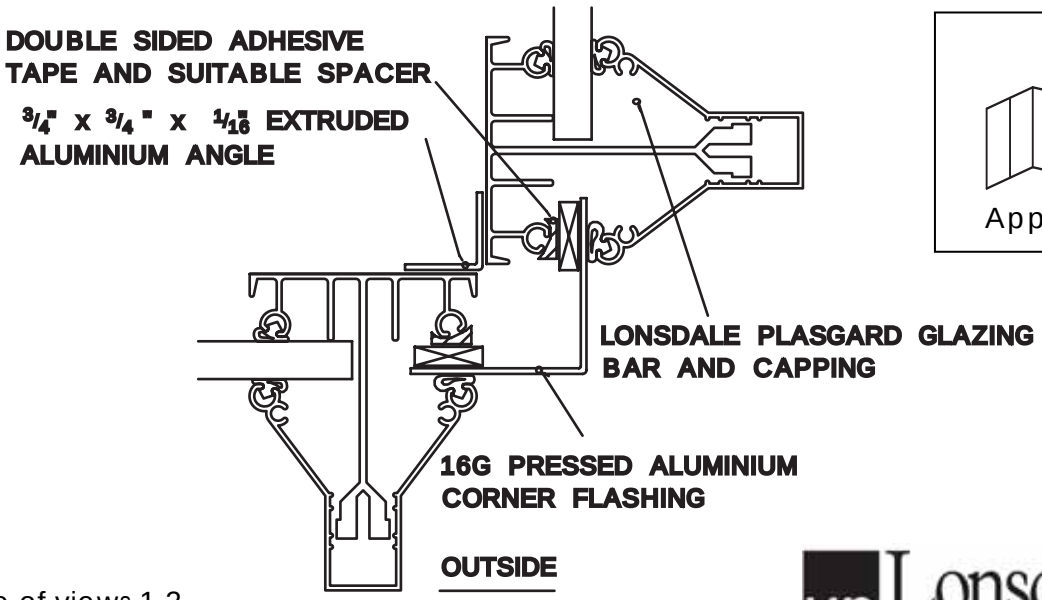


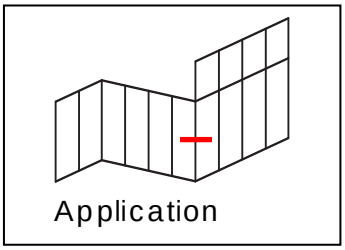


PlasGard – Internal corner to vertical CAD Code PLA27X



PlasGard – External corner to vertical CAD Code PLA28X

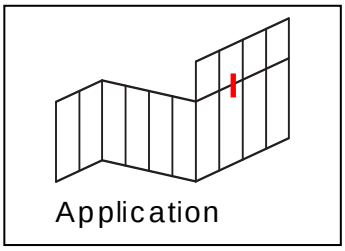


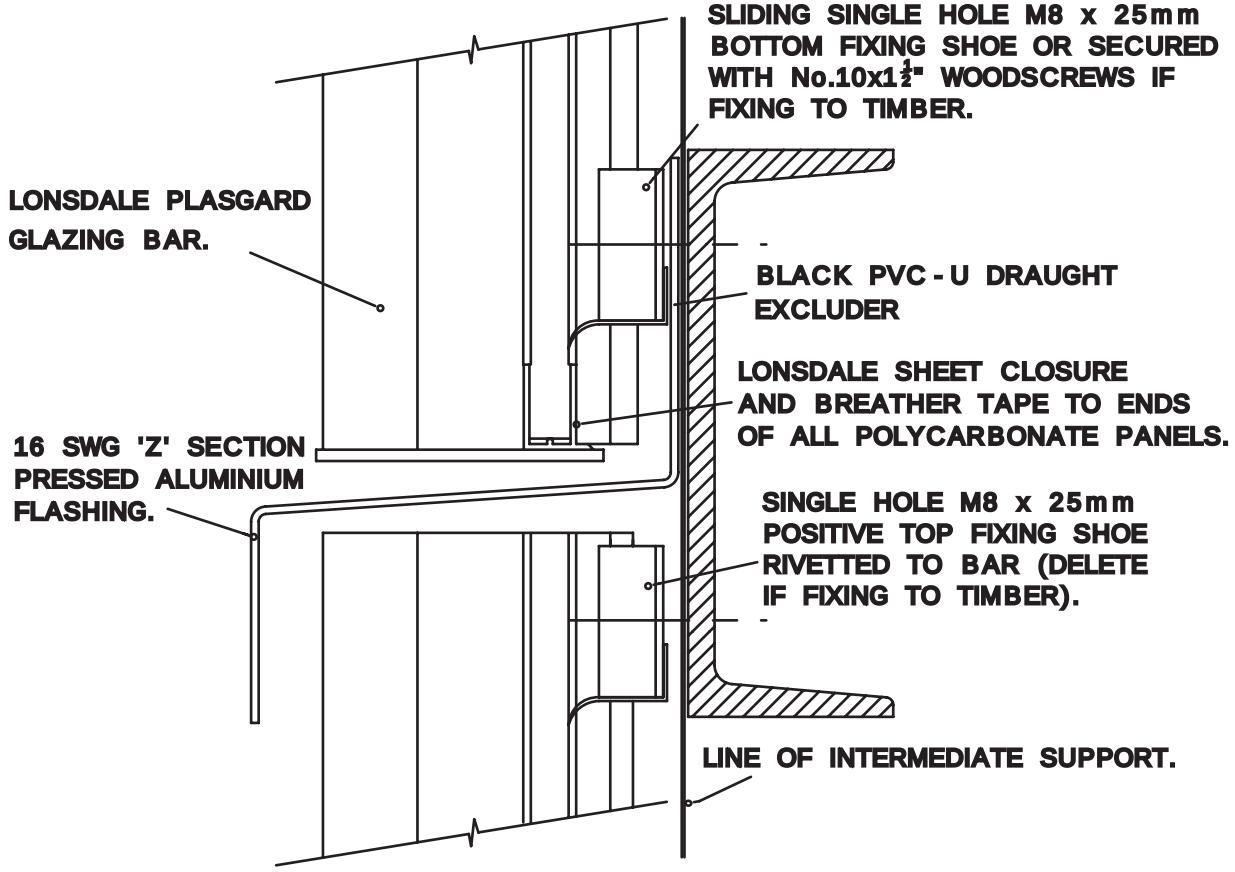


Scale of views 1-2

Vertical intermediate detail

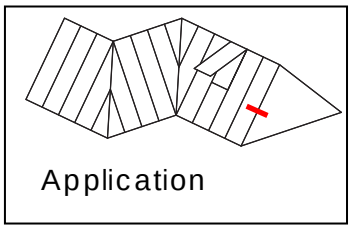
CAD Code PLA29Y

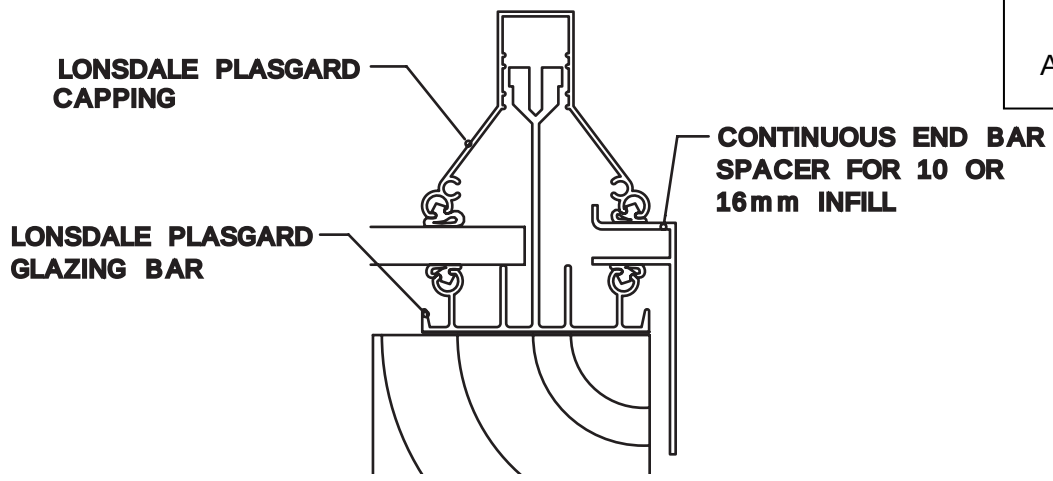




Verge

CAD Code PLA31X





Scale of views 1-2

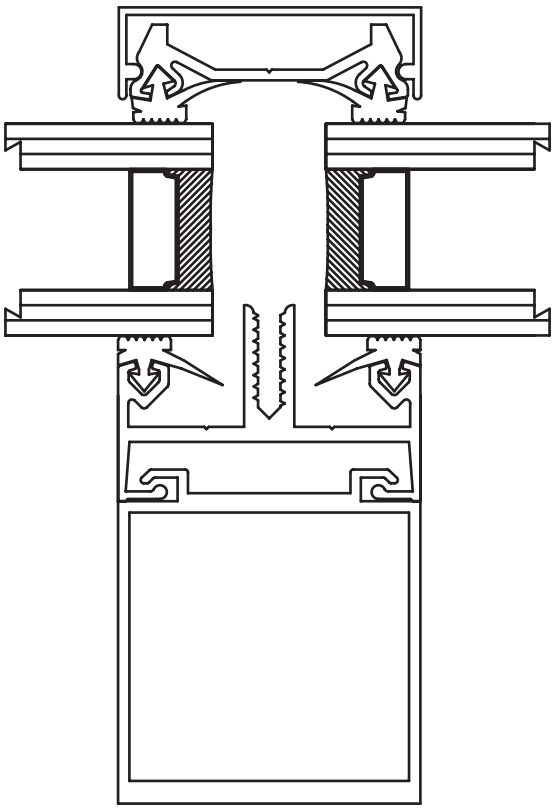
ThermGard

Lonsdales' answer to achieving thermal break roof glazing, slim internal box design provides elegant and clean lines to any structure. ThermGard is compliant with the latest Building Regulations in relation to thermal and air-tightness performance.

- Thermal break design.
- Ventilated internal box-rafter design to minimise the risk of condensation.
- Choice of box rafter to suit short and long spans.
- Neat continuous pressure plates and snap-on covers providing invisible fixings and low profile appearance.
- Optional period timber style aluminium box-rafter and capping for heritage buildings.

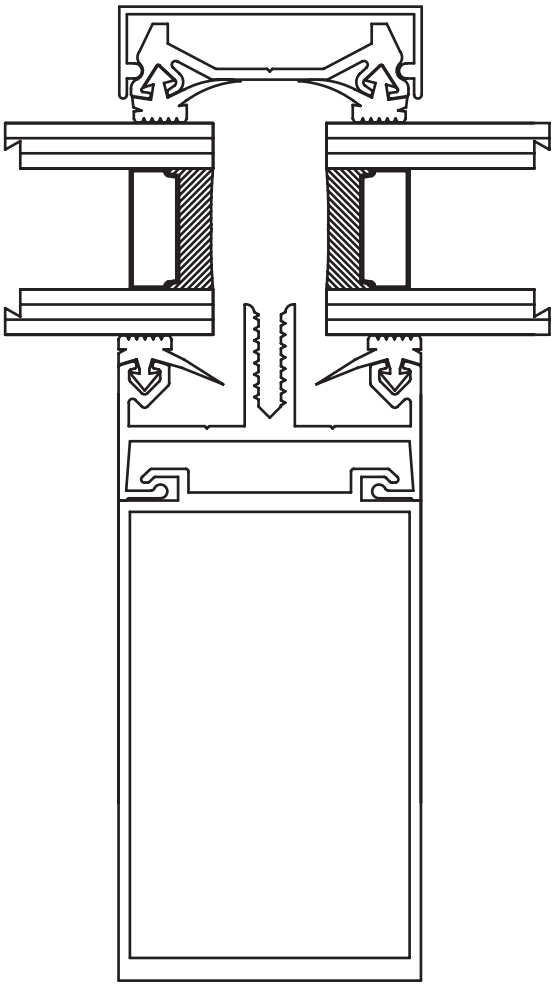
ALM100/1 Profile

CAD Code ALM1001



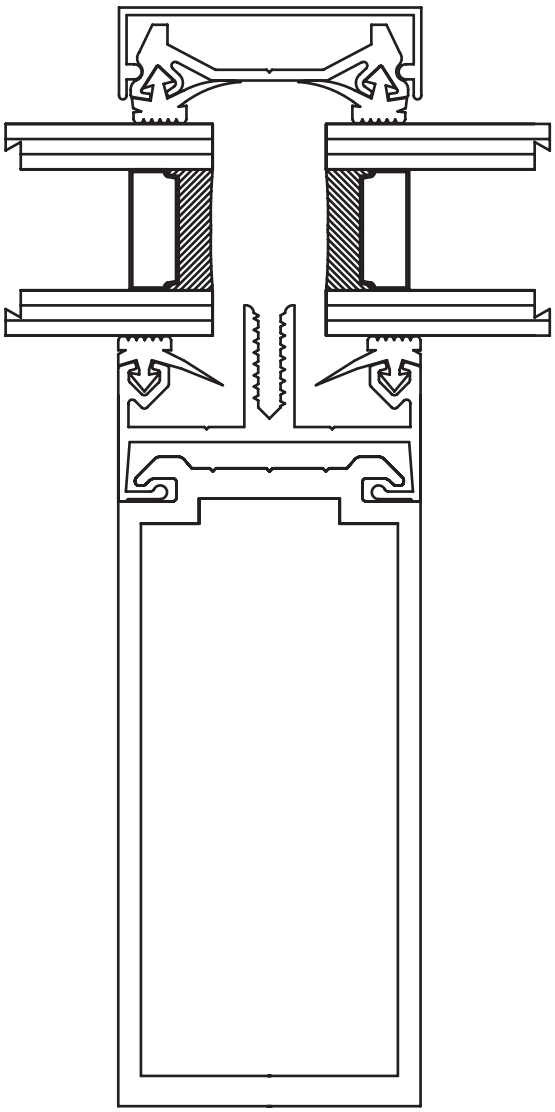
ALM100/2 Profile

CAD Code ALM1002

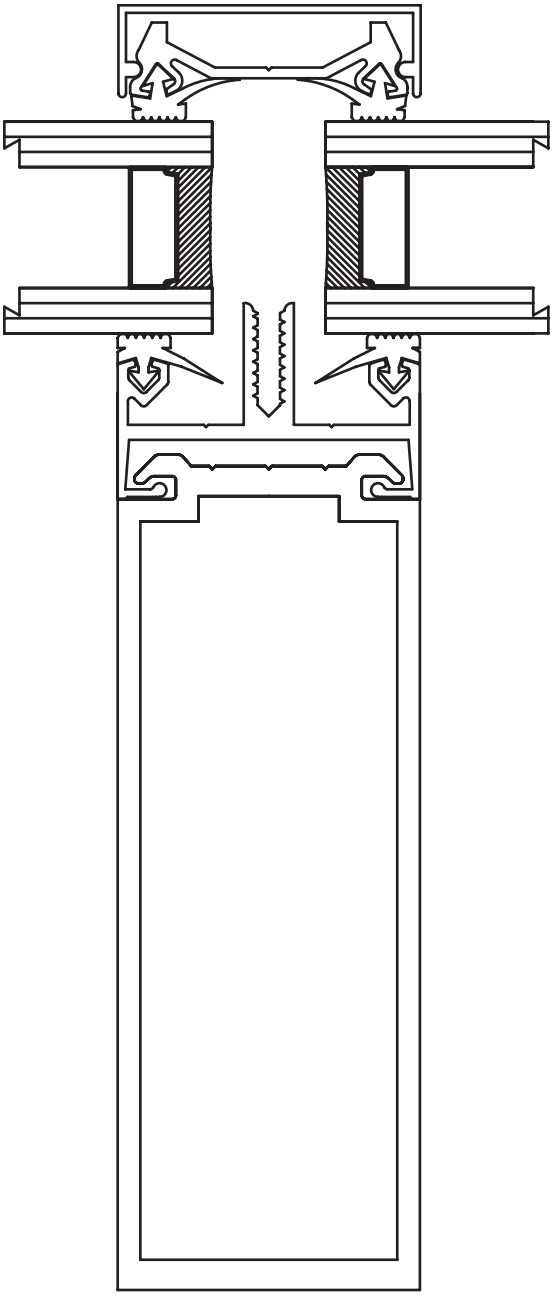


Scale of all profiles 1:1

ALM100/3 Profile
CAD Code ALM1003



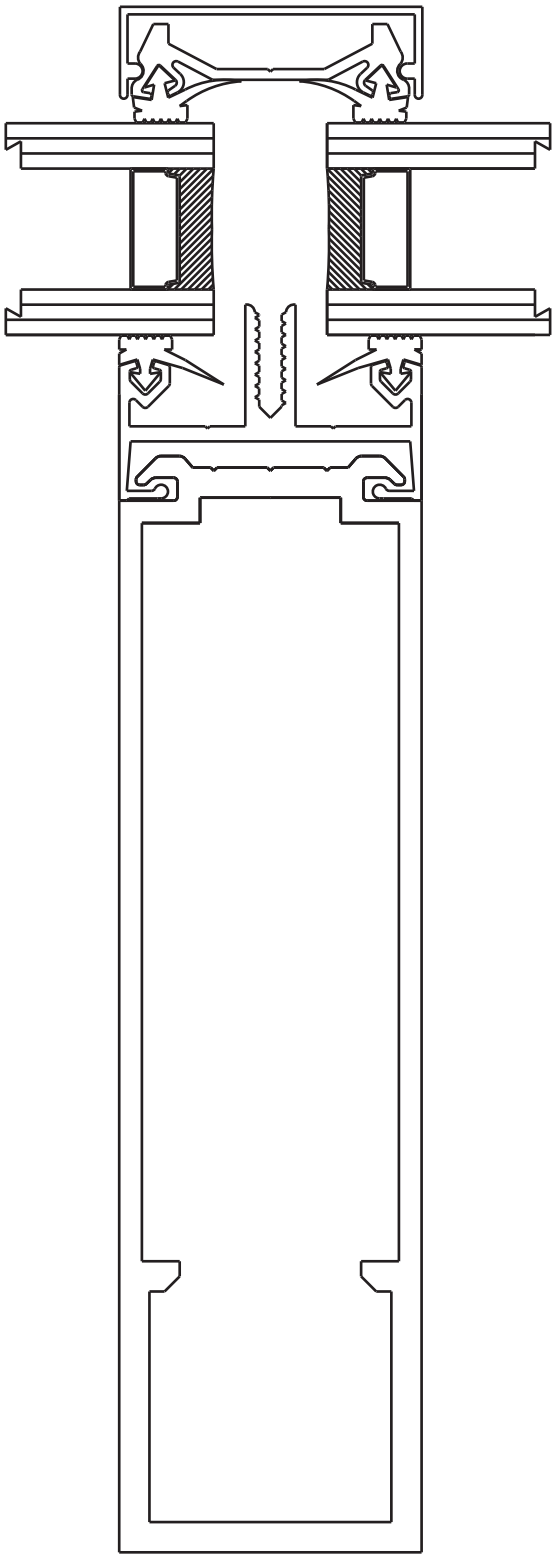
ALM100/4 Profile
CAD Code ALM1004



Scale of all profiles 1:1

ALM100/5 Profile

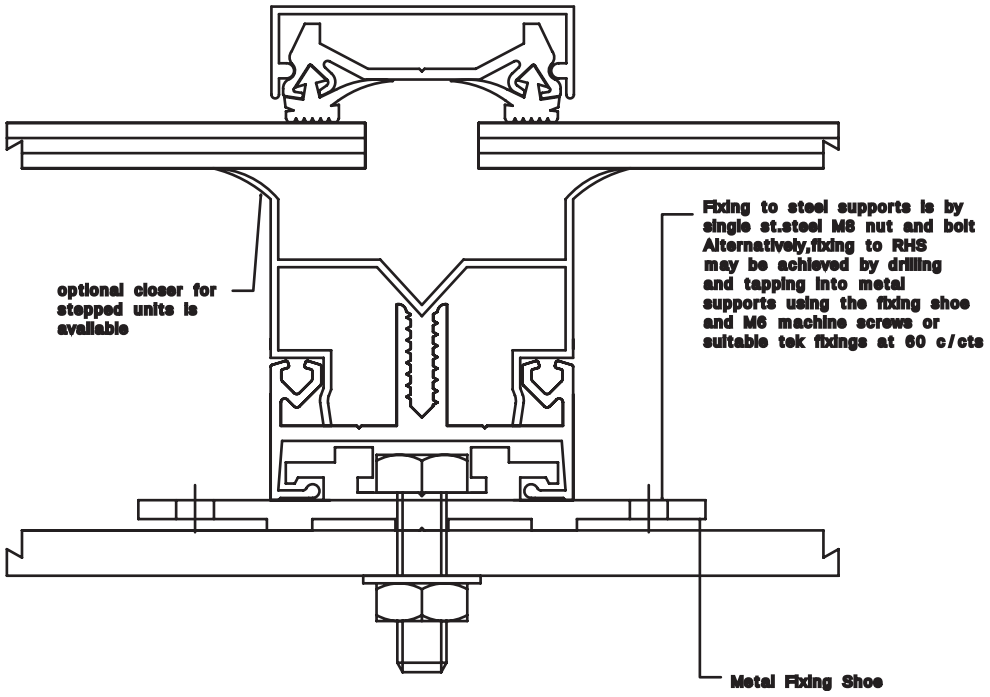
CAD Code ALM1005



Scale of all profile 1:1

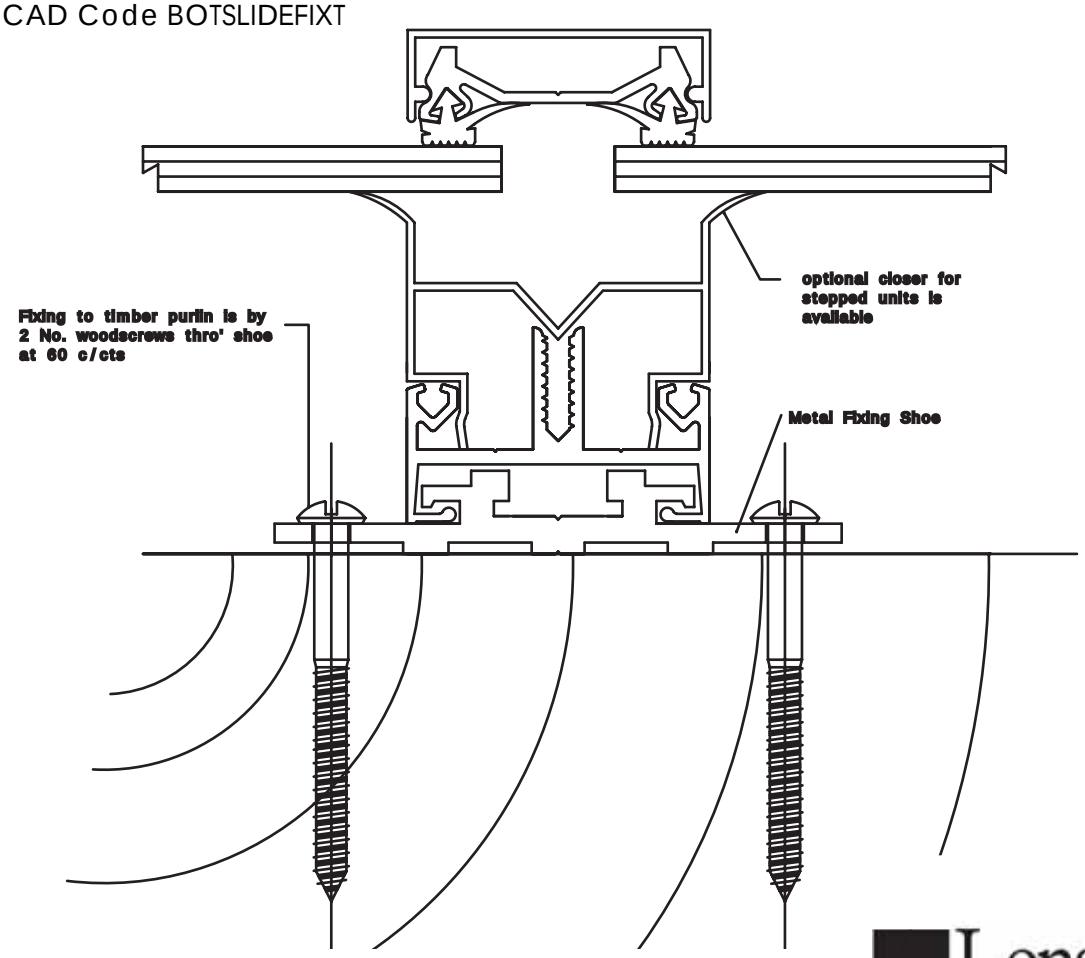
Bottom slide fixing detail to metal

CAD Code BOTSLIDEFIXM



Bottom slide fixing detail to timber

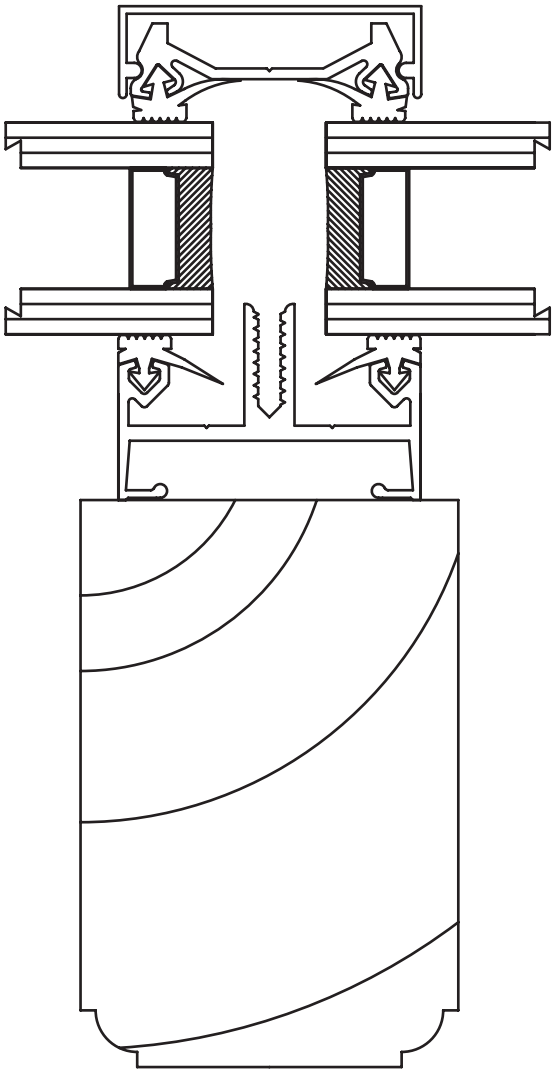
CAD Code BOTSLIDEFIXT



Scale of views 1-2

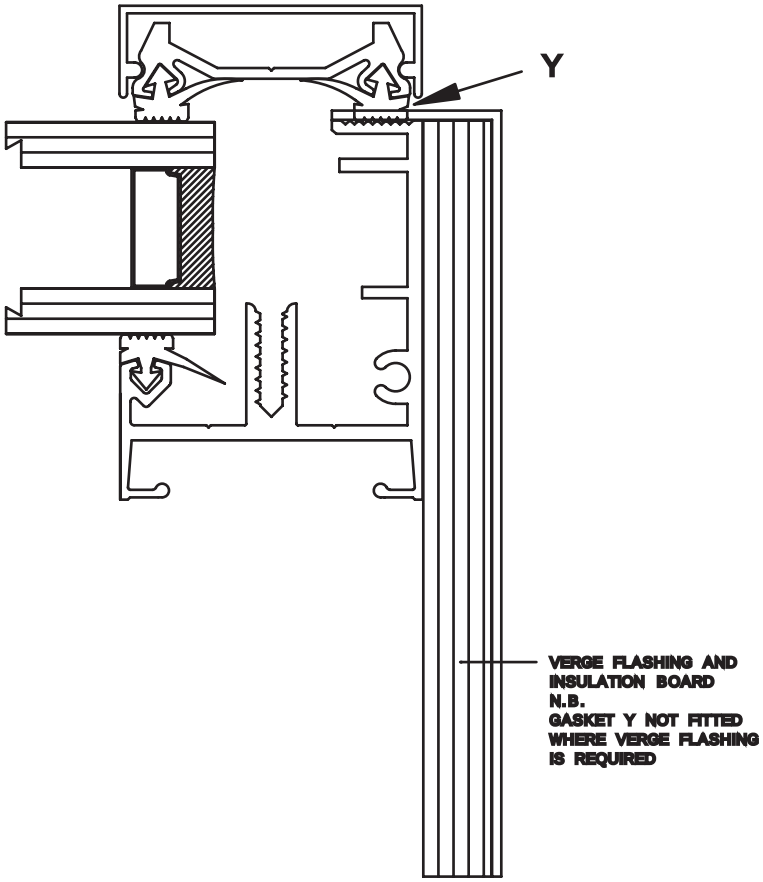
ALM100/WF Profile

CAD Code ALMWF



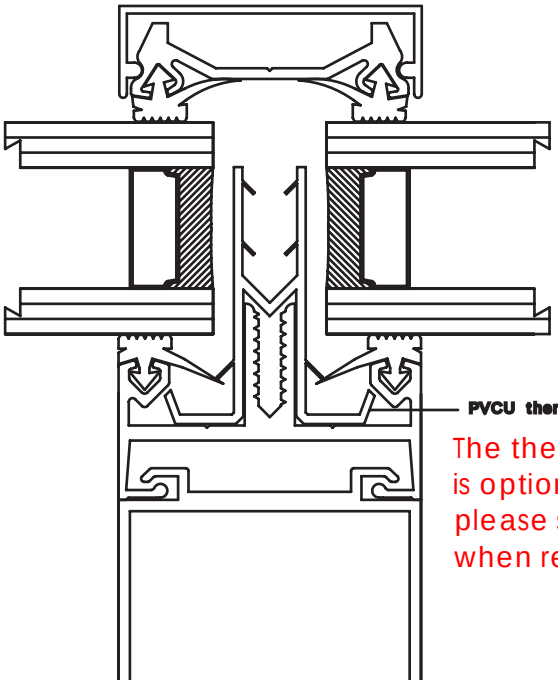
End Bar

CAD Code ENDBAR



ALM100 (DG28)

CAD Code ALM100DG28



The thermal barrier is optional – please specify when required

Hardwood conservatories

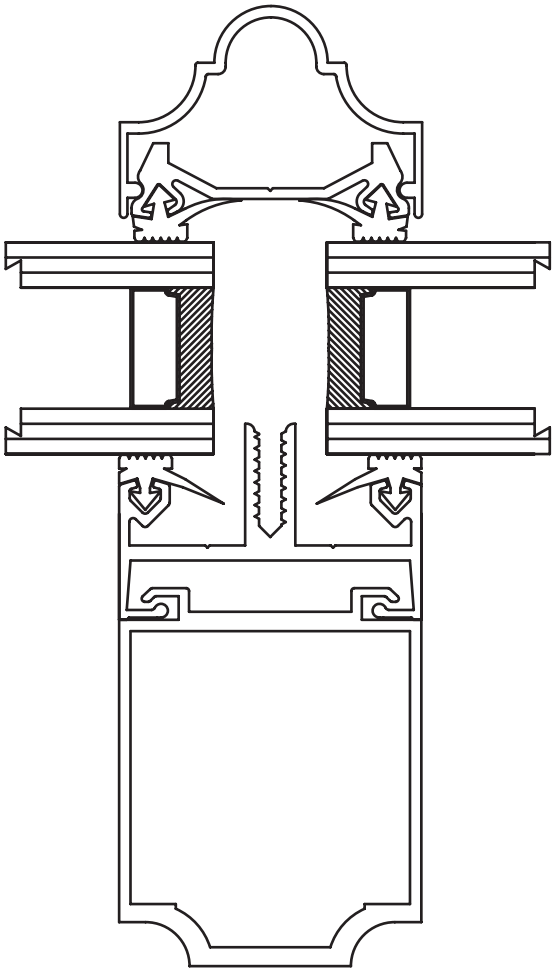
The ALM100/WF profile provides the benefits of high performance, weathering and maintenance free roofs to any conservatory, shielding the timber structure from the elements.

Fixing to metal supports is by single hole fixing shoe supplied with stainless steel M8 nut and bolt. Alternatively, fixing to RHS may be achieved by drilling and tapping into the metal supports using the fixing shoe and M6 machine screws or suitable TEK screws,

Scale of all profiles 1-1

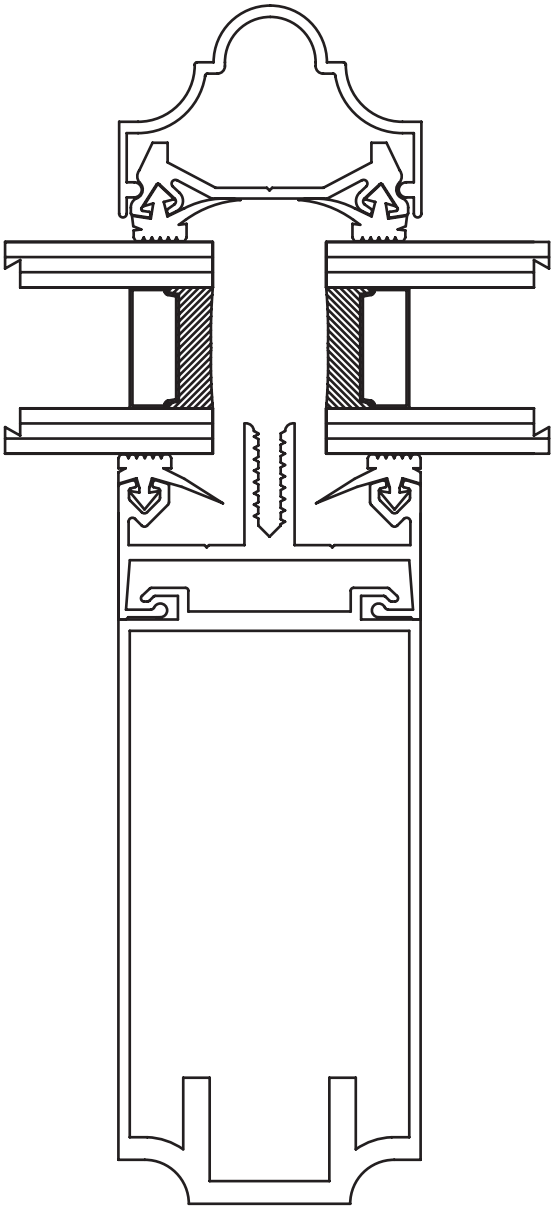
ALM100/6 Heritage Profile

CAD Code ALM100H6



ALM100/7 Heritage Profile

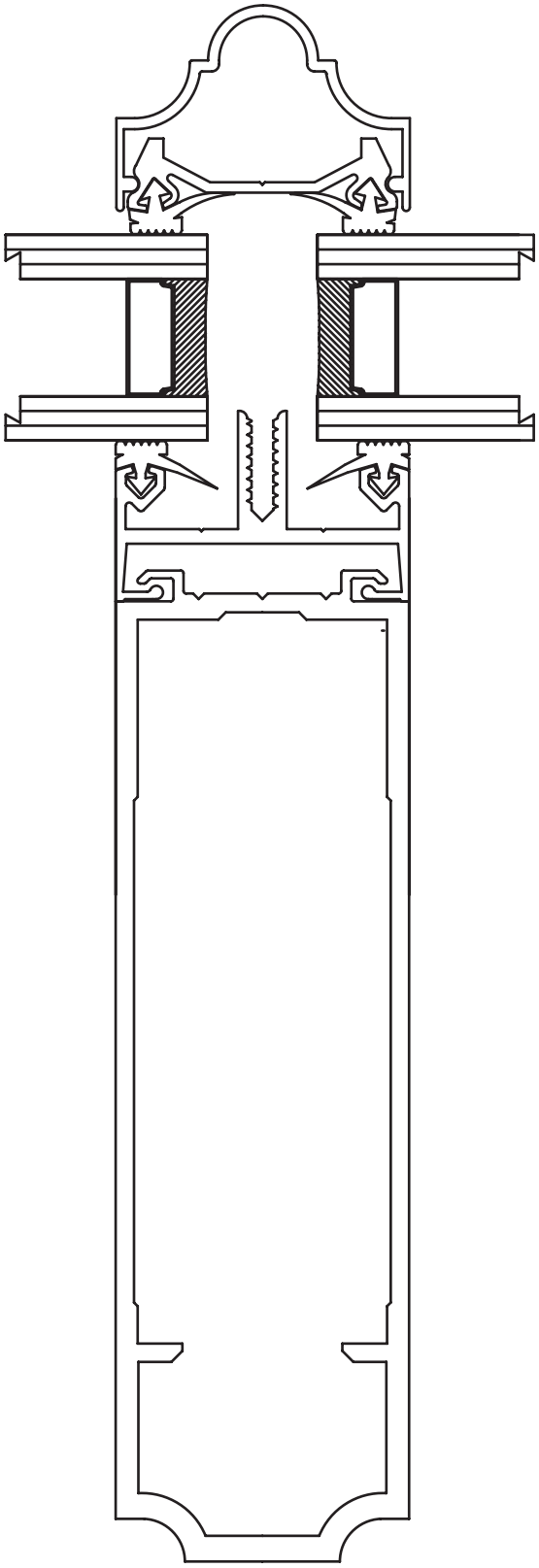
CAD Code ALM100H7



Scale of all profiles 1-1

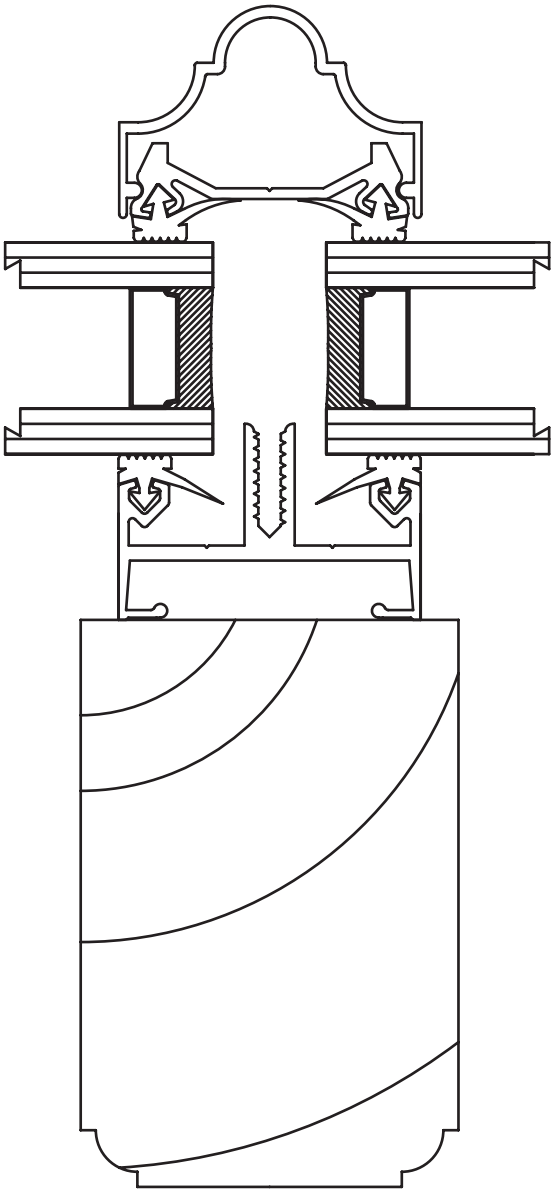
ALM100/8 Heritage Profile

CAD Code ALM100H8



ALM100/HCWF Heritage Profile

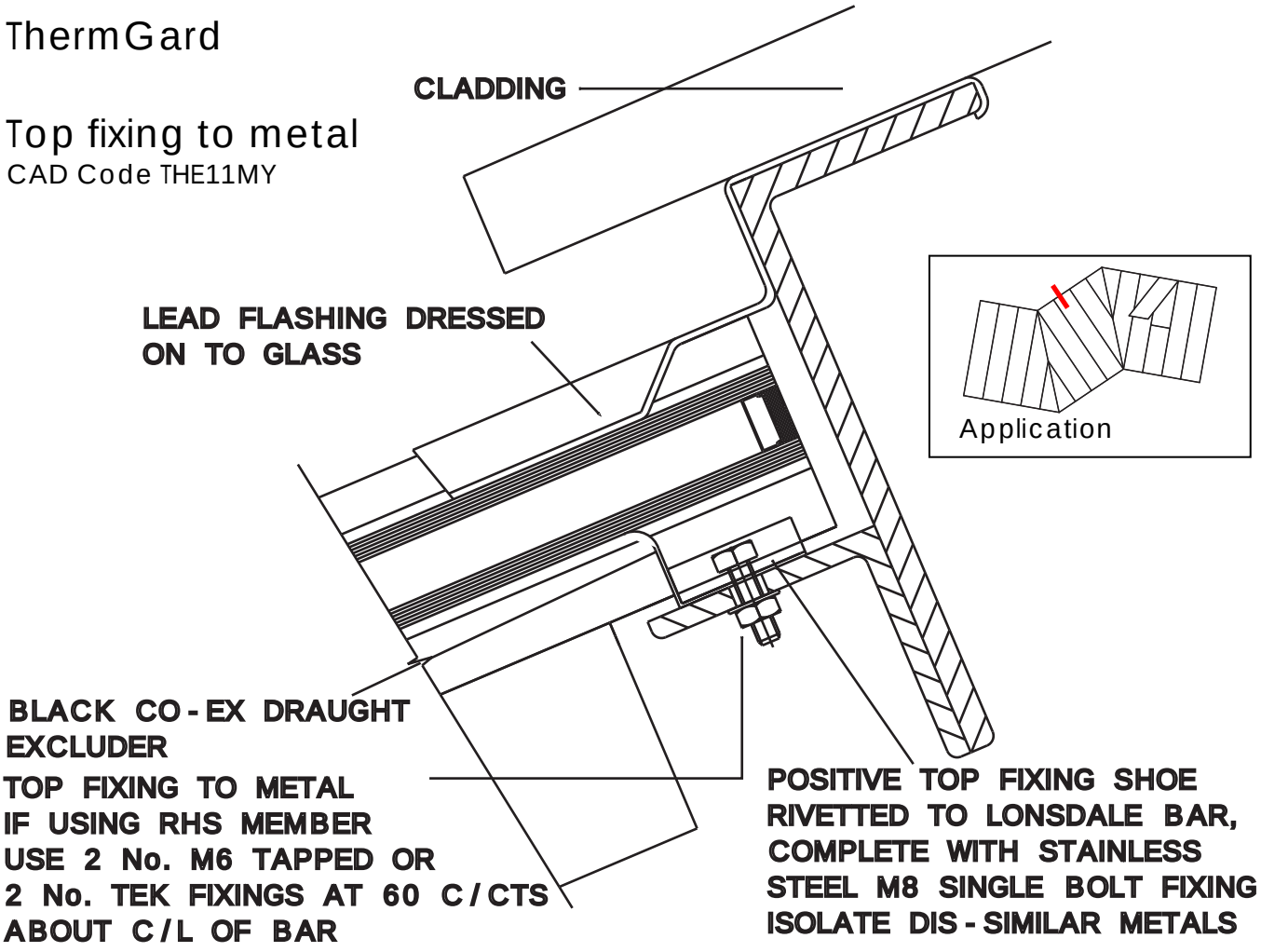
CAD Code ALM100HCWF



Scale of all profiles 1-1

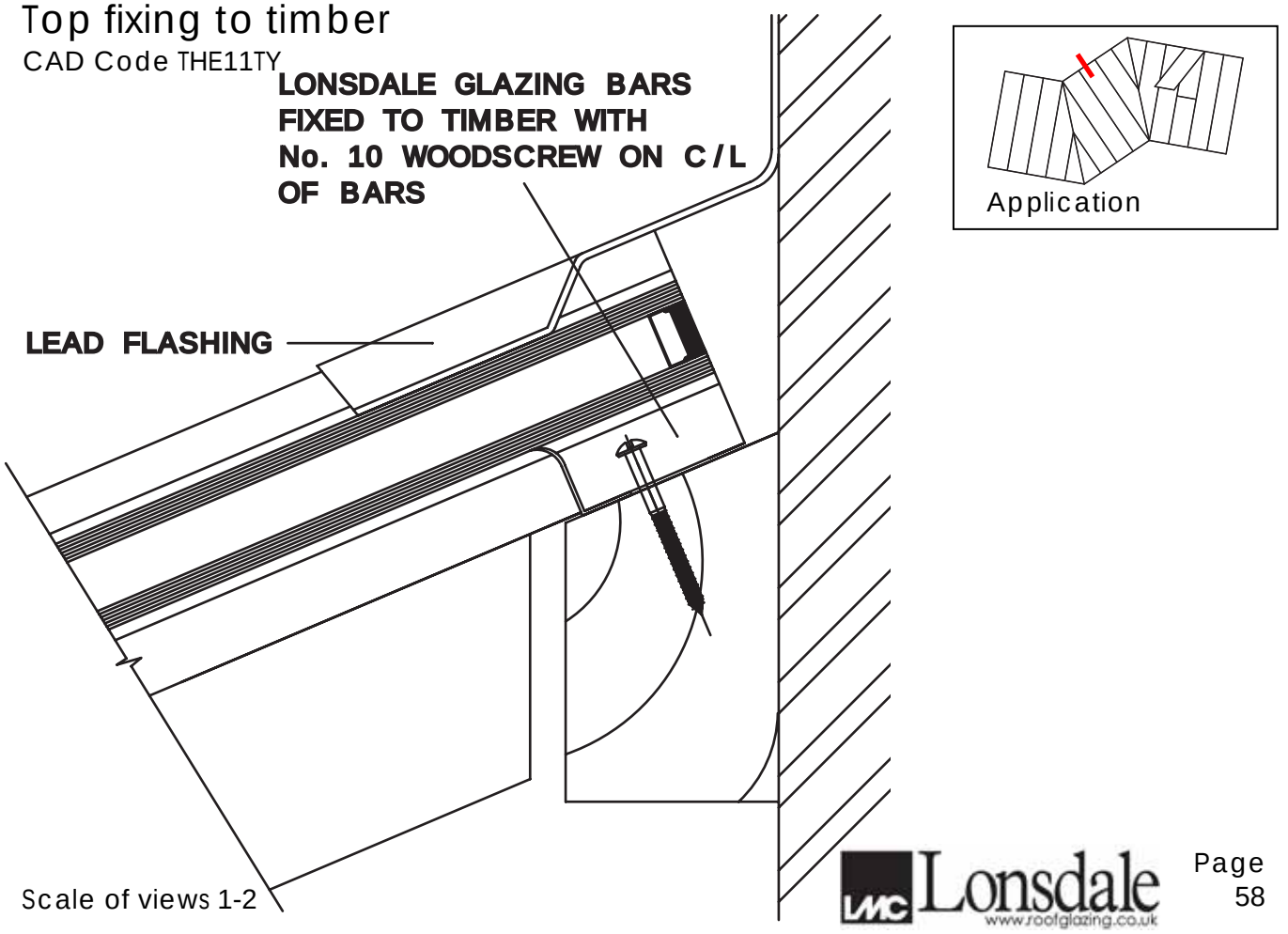
Top fixing to metal

CAD Code THE11MY



Top fixing to timber

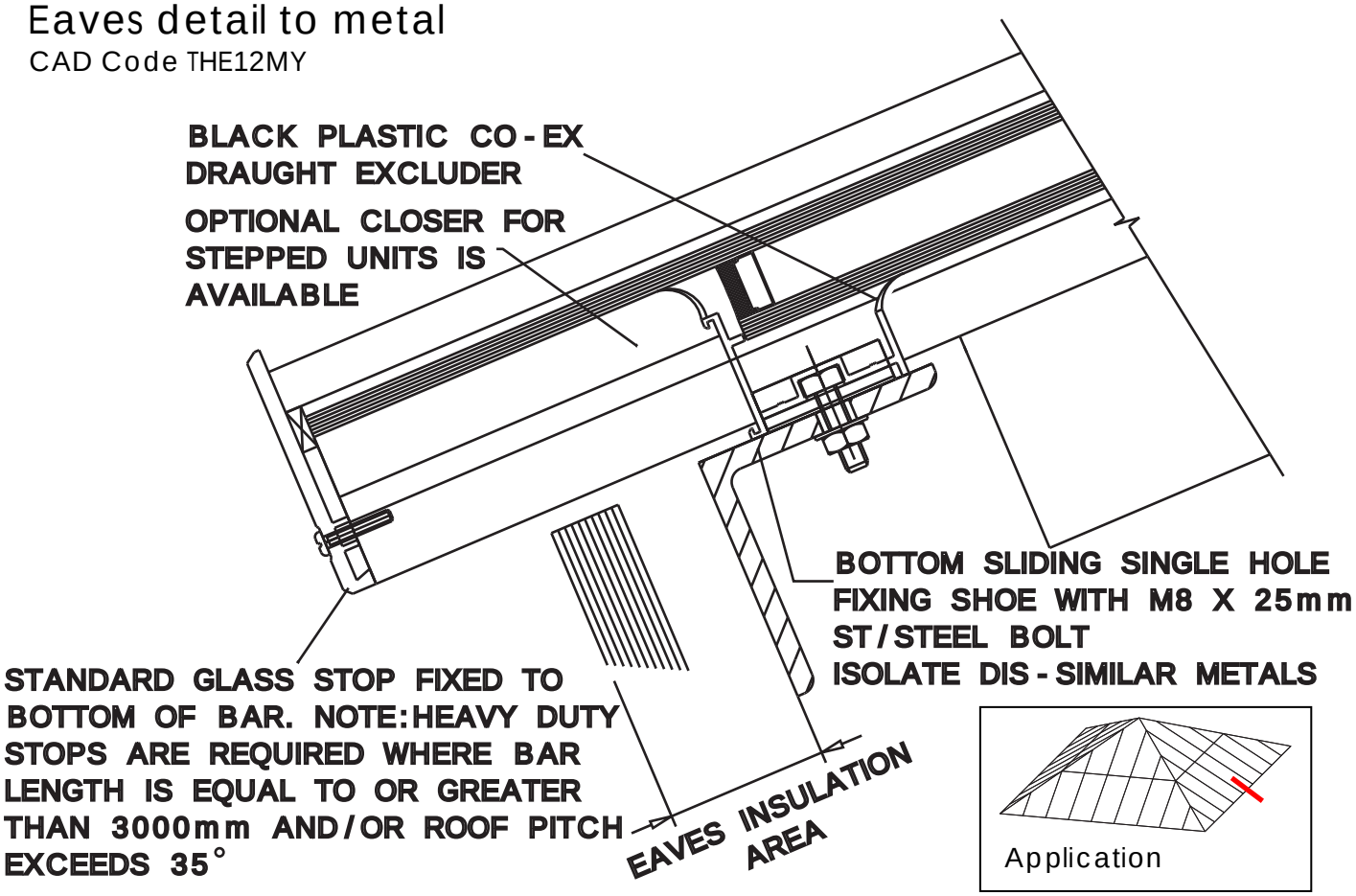
CAD Code THE11TY



Scale of views 1-2

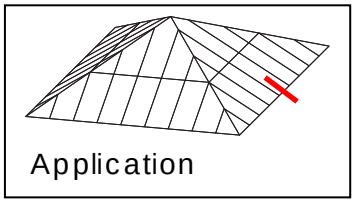
Eaves detail to metal

CAD Code THE12MY



Eaves detail to timber

CAD Code THE12TY

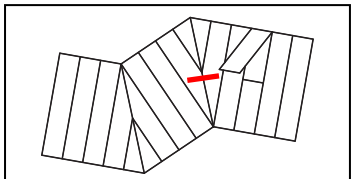


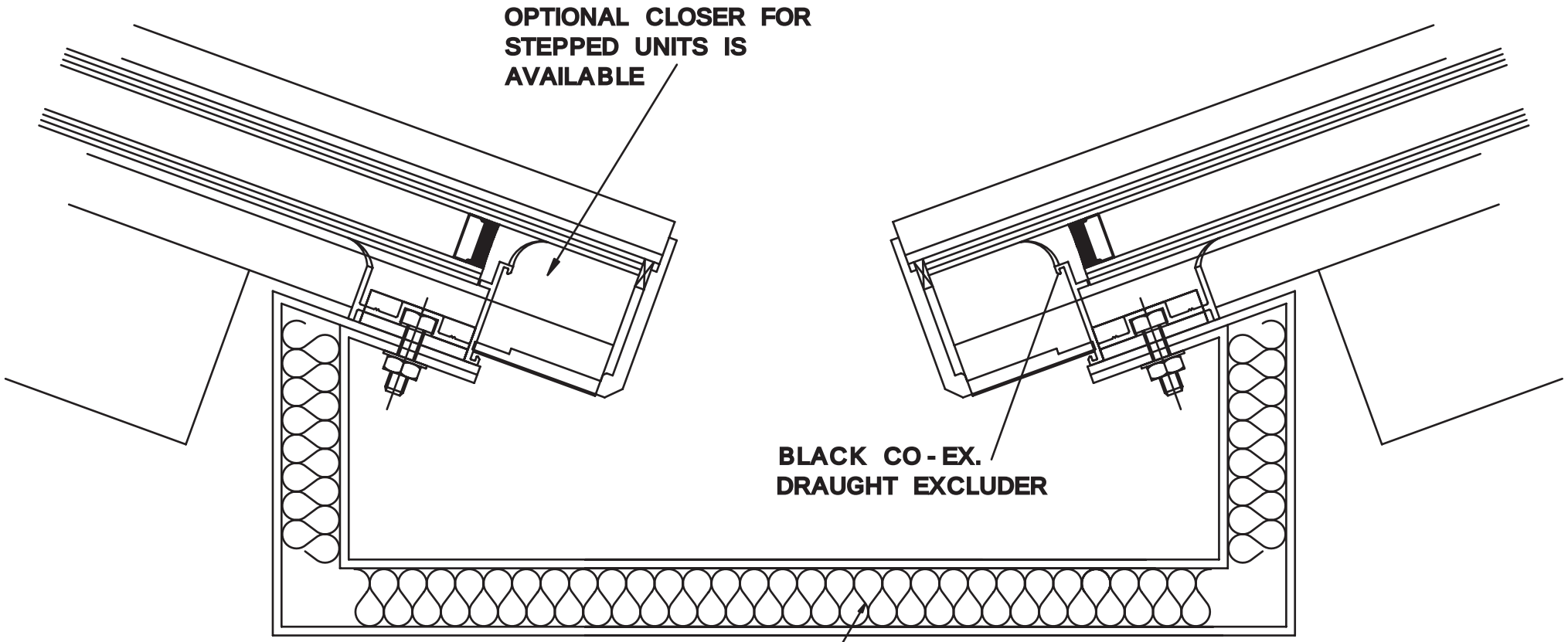
Scale of views 1-2

ThermGard

Roof valley gutter detail aluminium or galvanised steel

CAD Code THE13MY



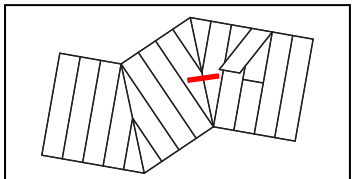


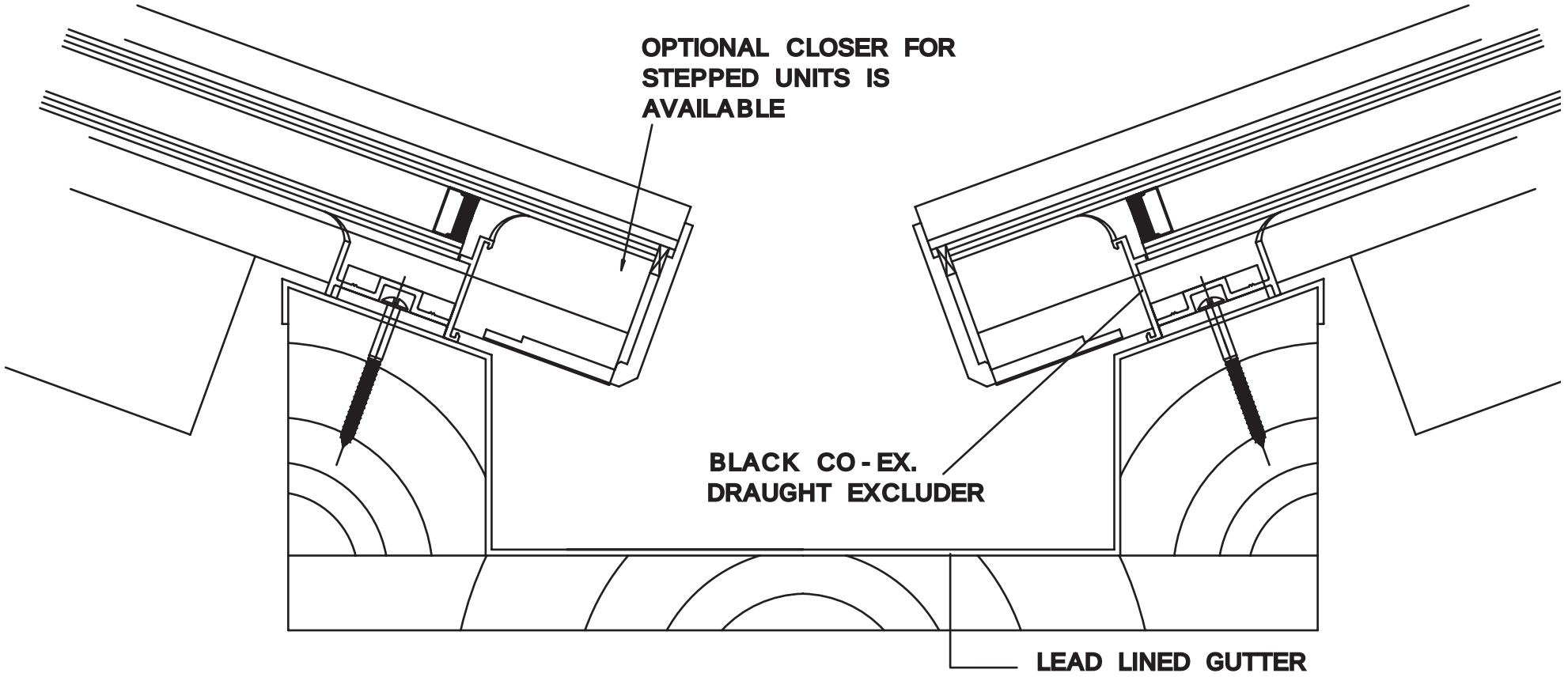
Scale of view 1: 2

ThermGard

Roof valley gutter detail timber lead-lined

CAD Code THE13TY

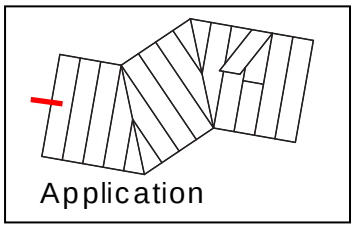


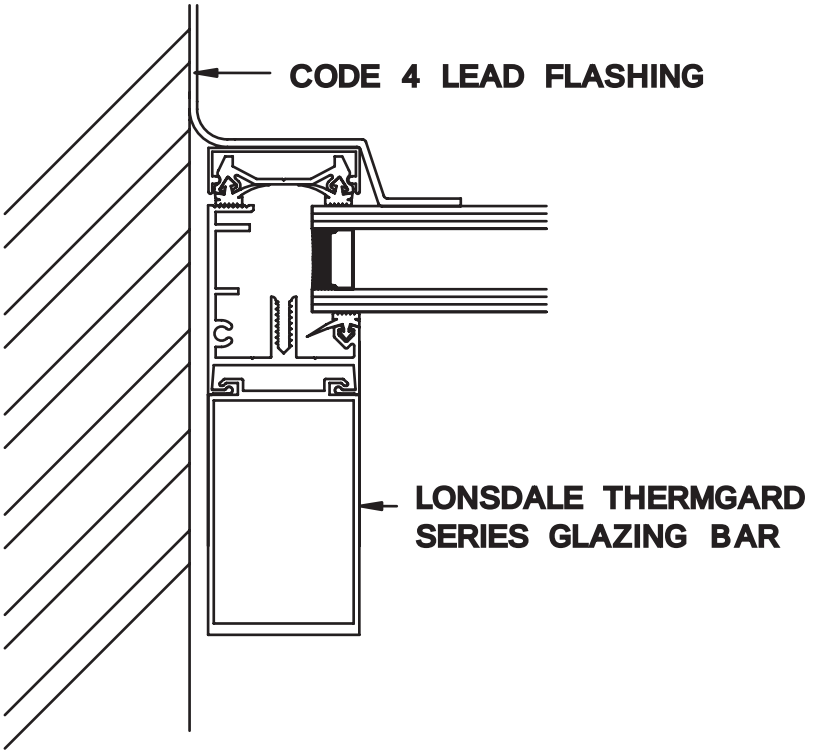


Scale of view 1: 2

Parapet

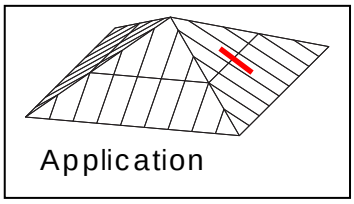
CAD Code THE14Y See also Verge THE31Y on page 71





Glass jointing

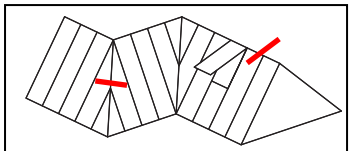
CAD Code 22Y



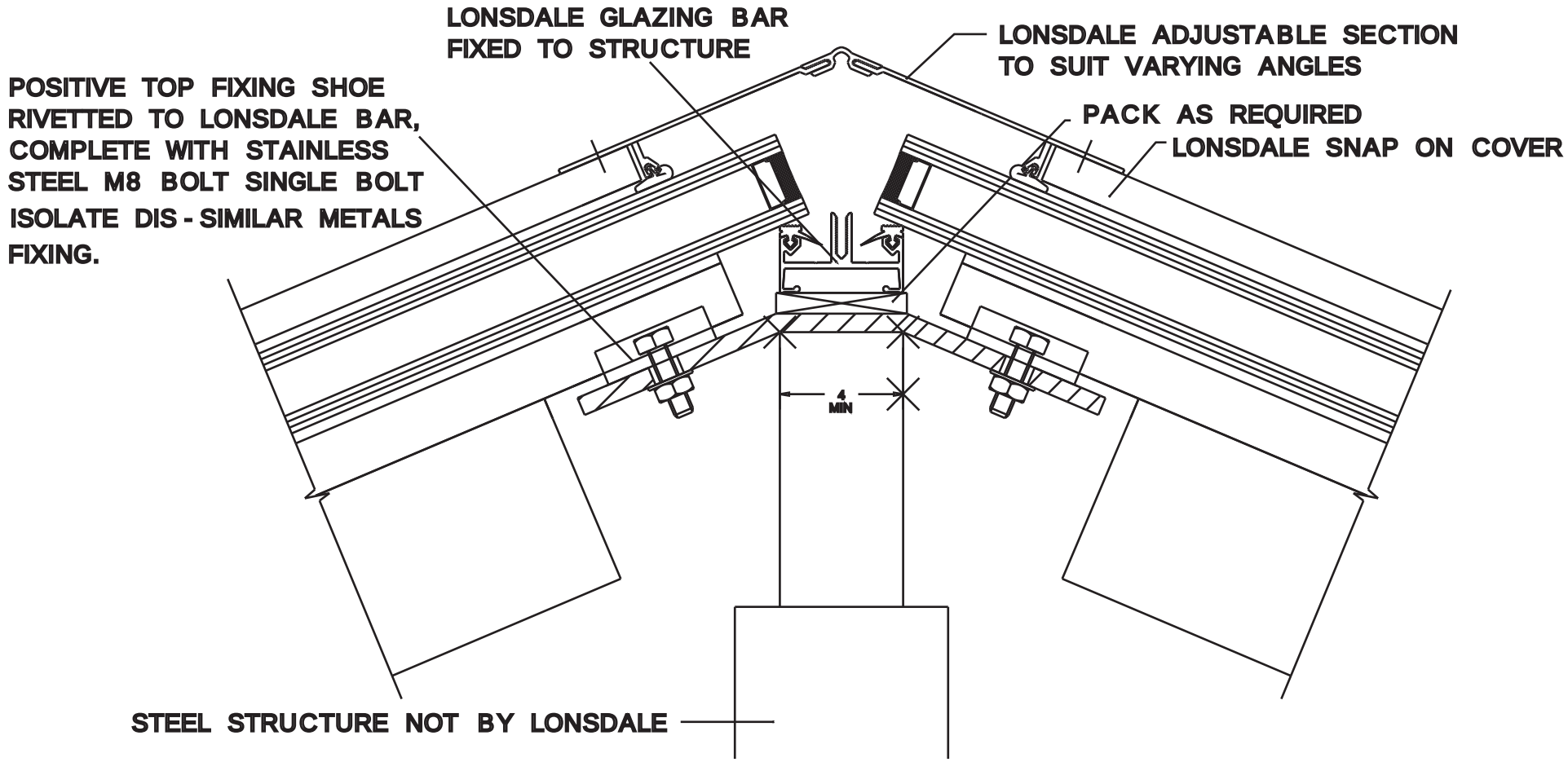
ThermGard

Ridge/hip detail to metal

CAD Code THE18MY



Application

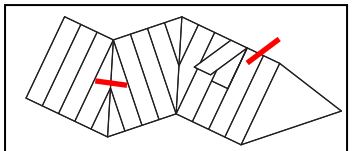


Scale of view 1: 2

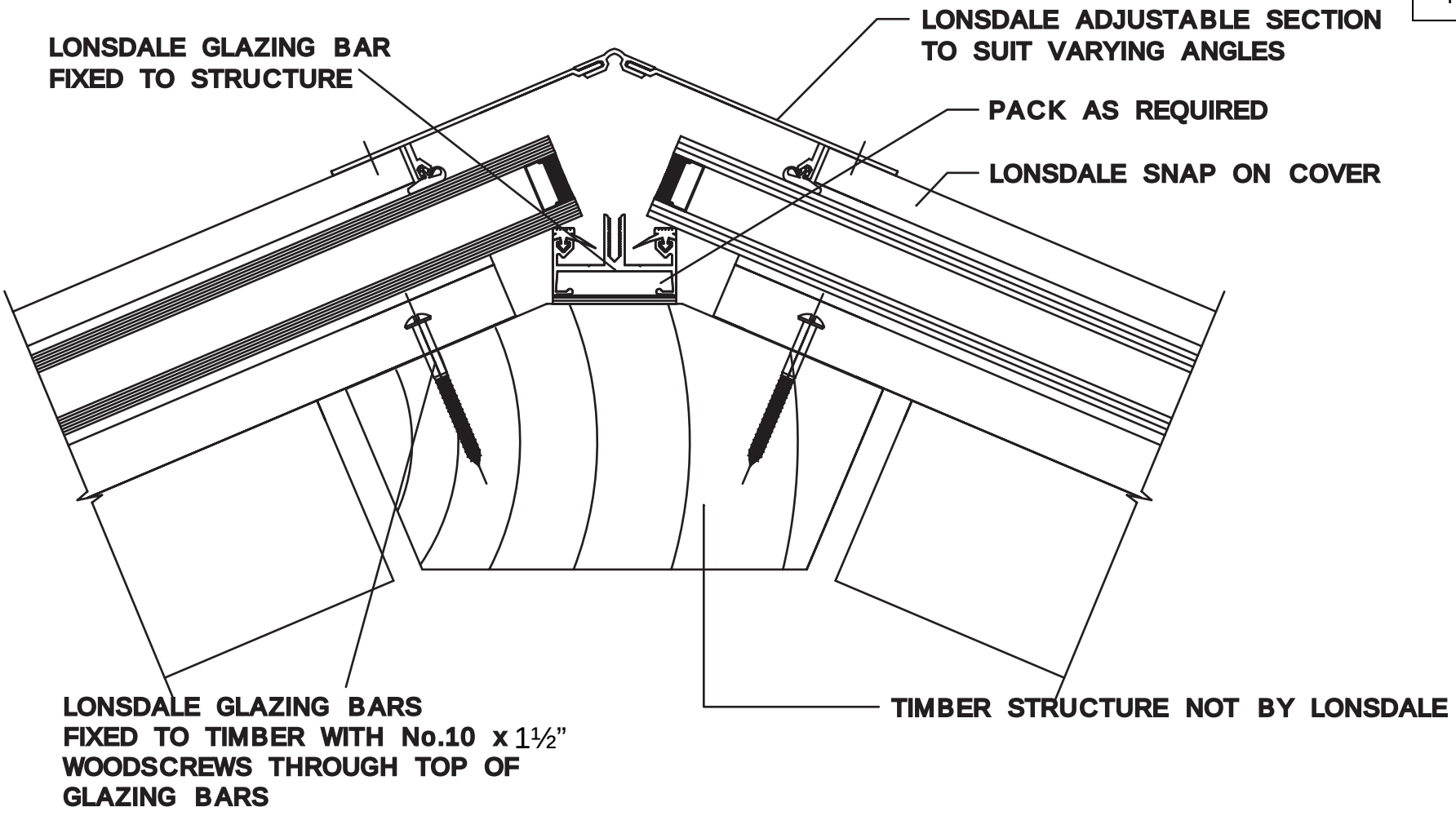
ThermGard

Ridge/hip detail to timber

CAD Code THE18TY



Application

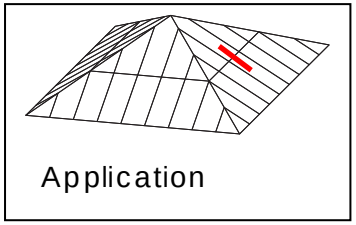


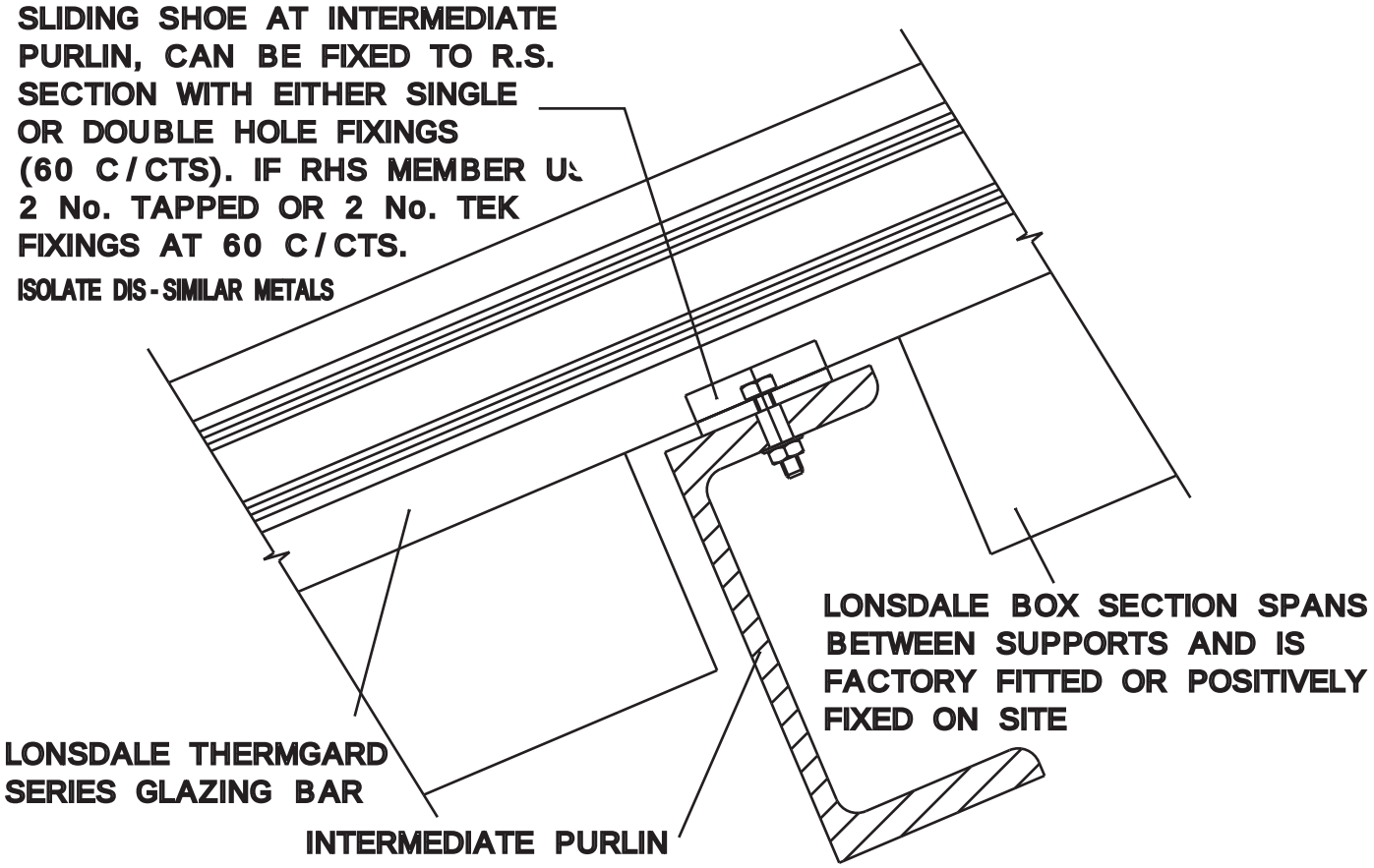
Scale of view 1: 2

ThermGard

Intermediate roof detail to metal

CAD Code THE21MY



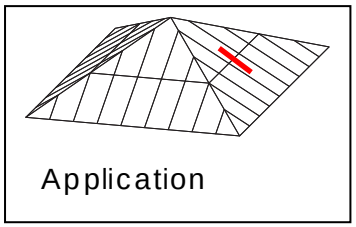


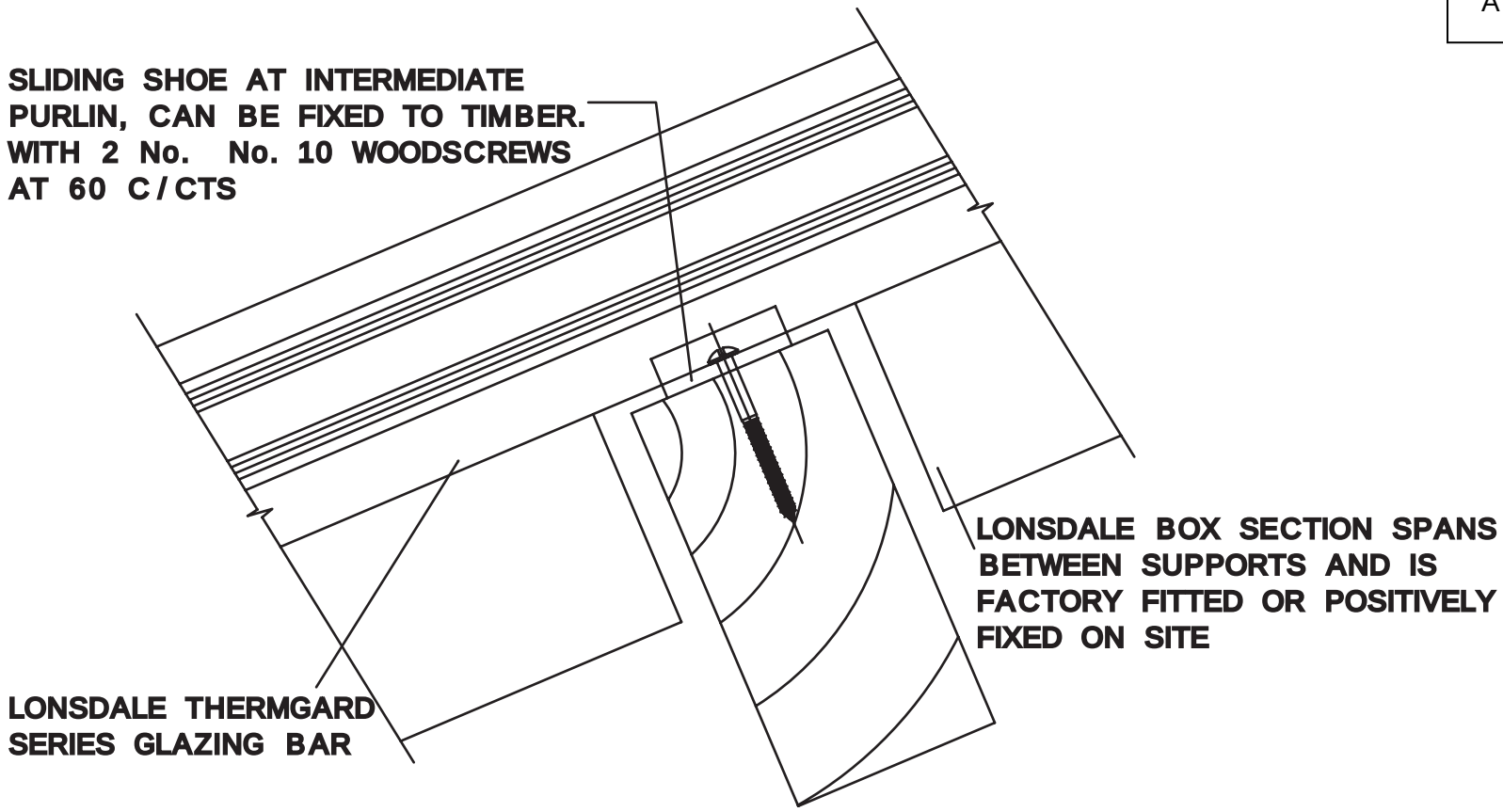
Scale of view 1: 2

ThermGard

Intermediate roof detail to timber

CAD Code THE21TY



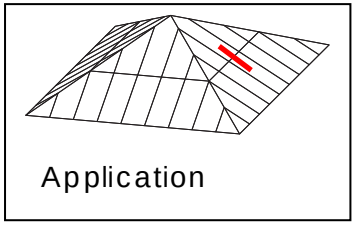


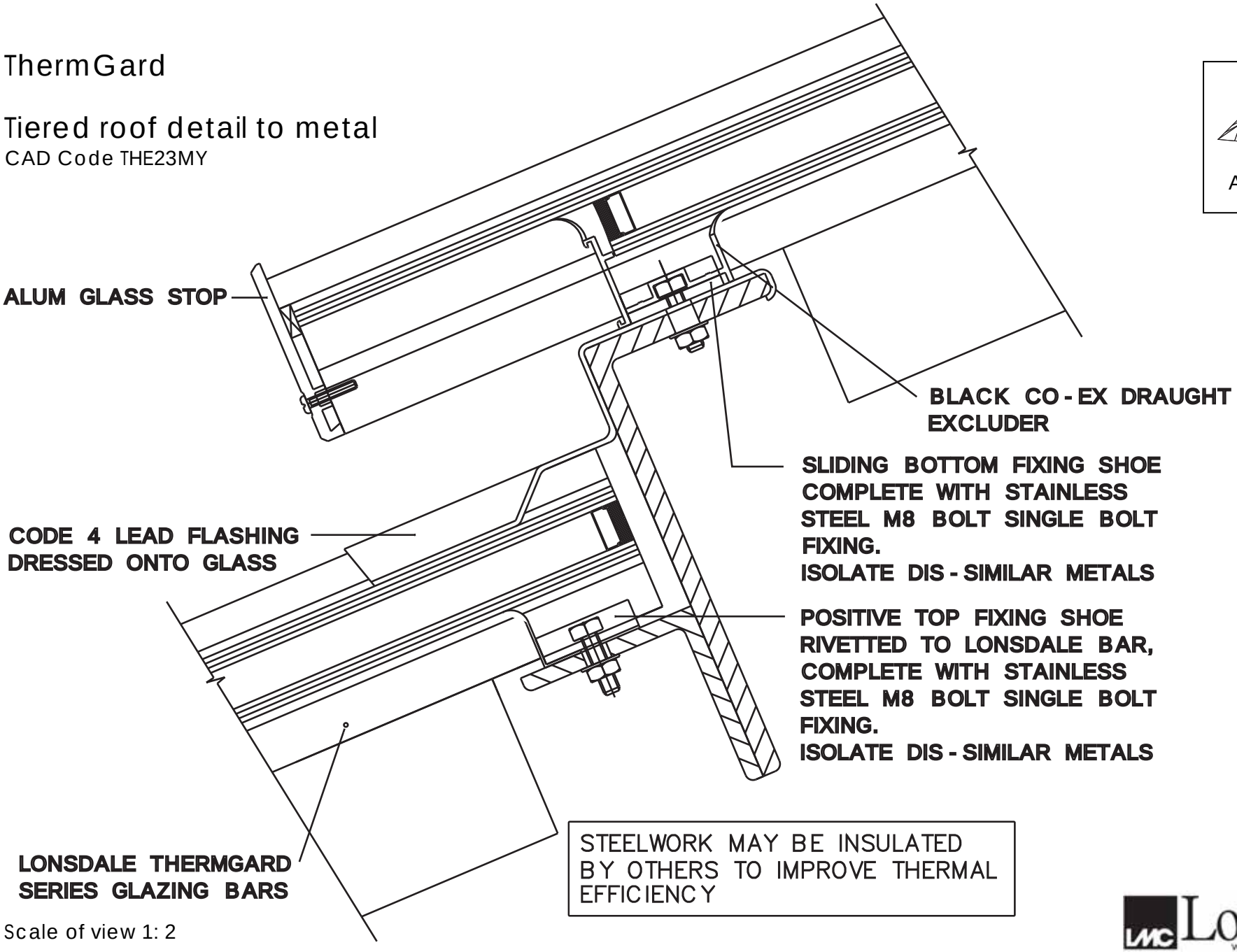
Scale of view 1: 2

ThermGard

Tiered roof detail to metal

CAD Code THE23MY



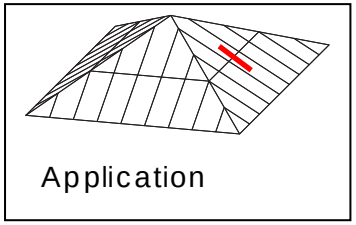


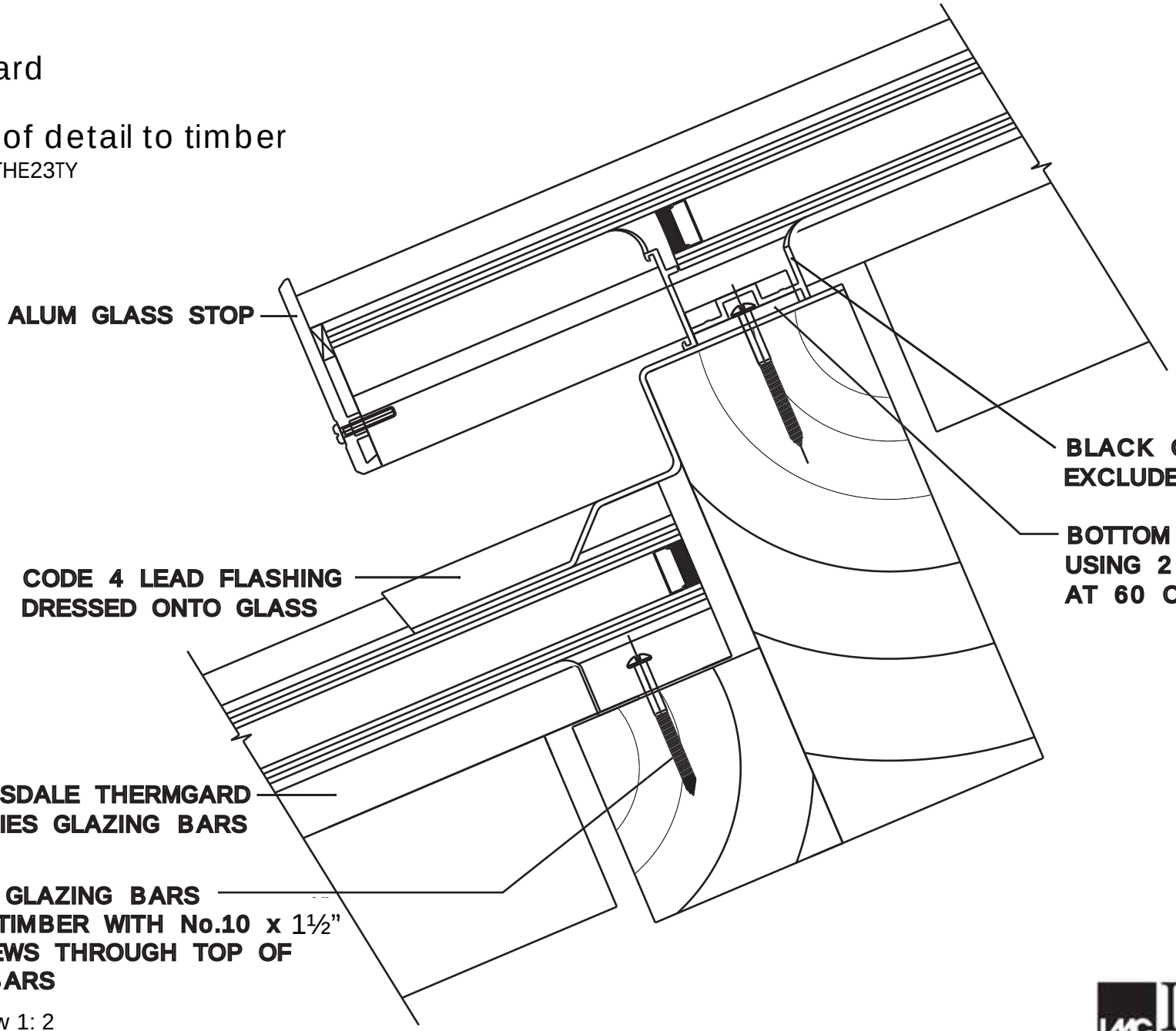
Scale of view 1: 2

ThermGard

Tiered roof detail to timber

CAD Code THE23TY

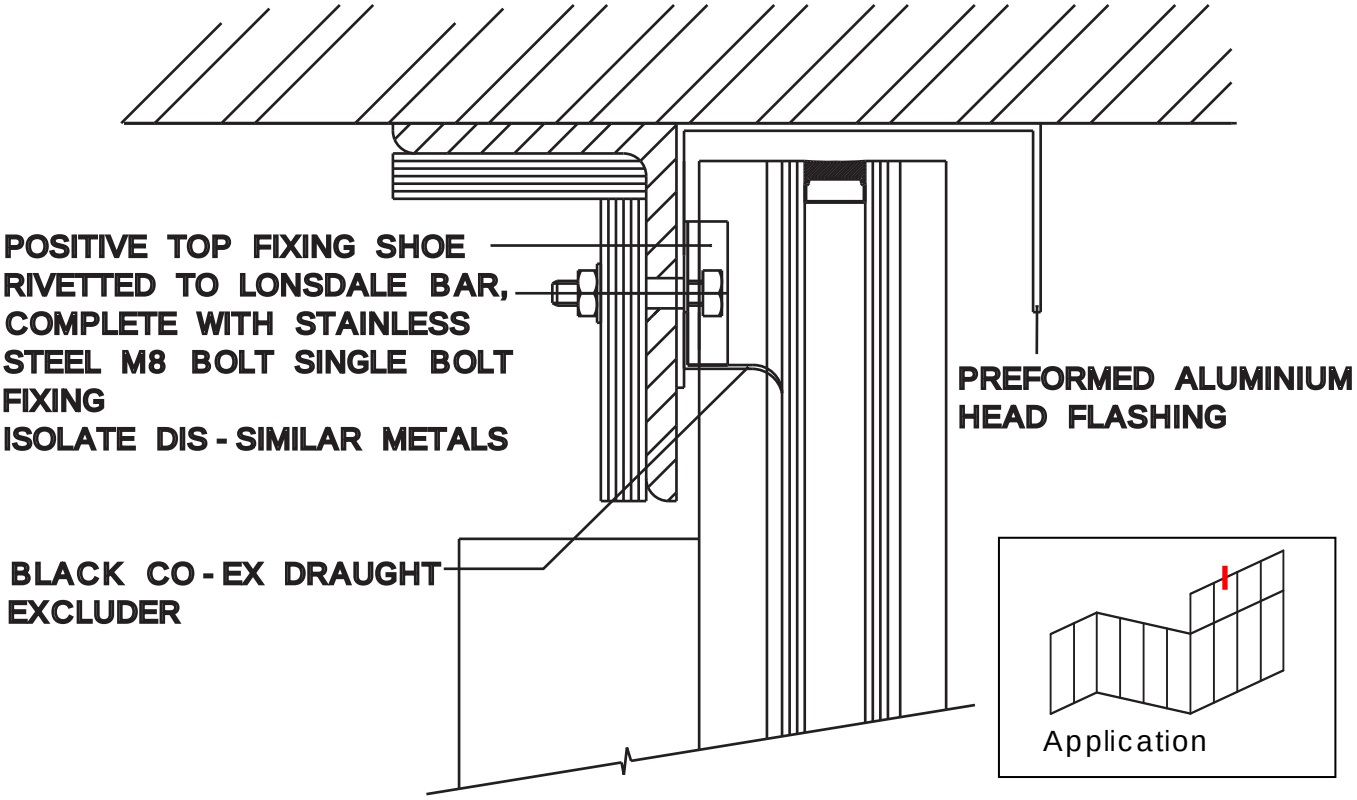




Scale of view 1: 2

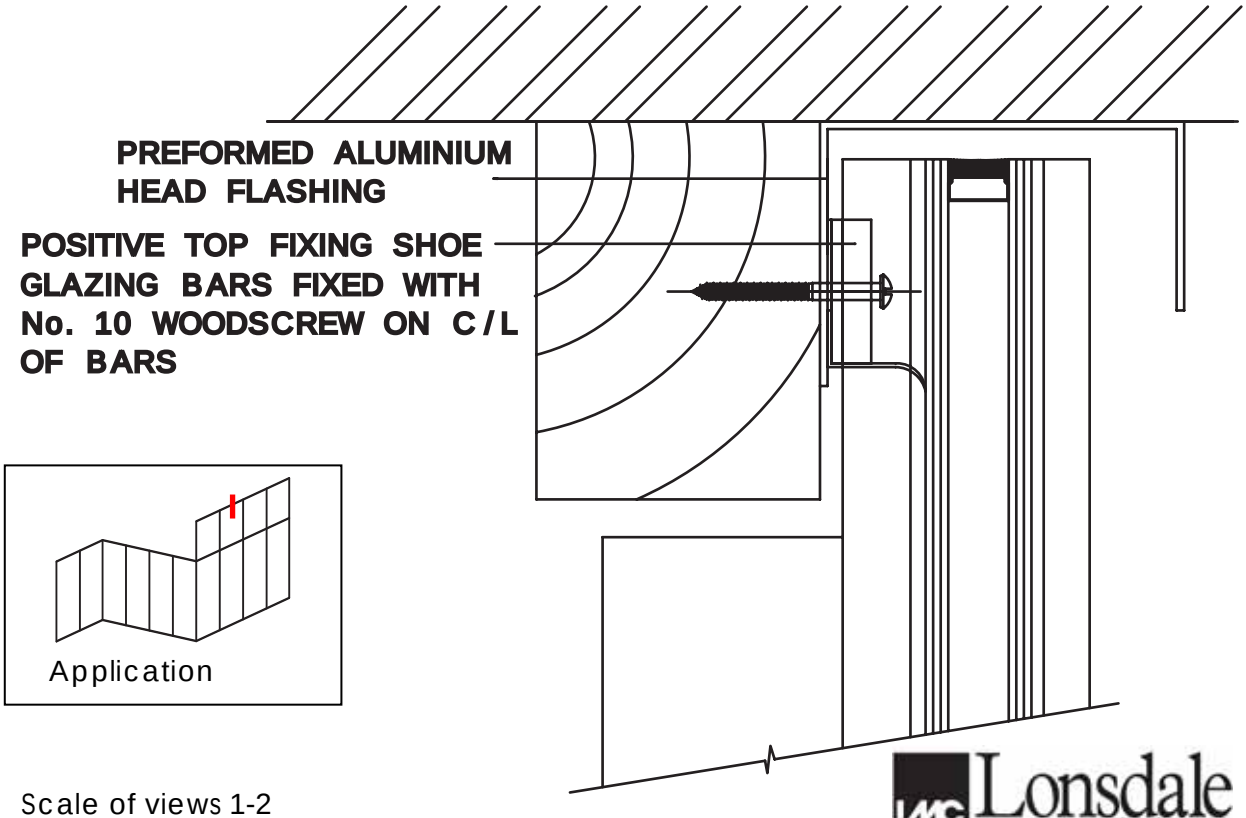
Vertical head fixing to metal

CAD Code THE24MY



Vertical head fixing to timber

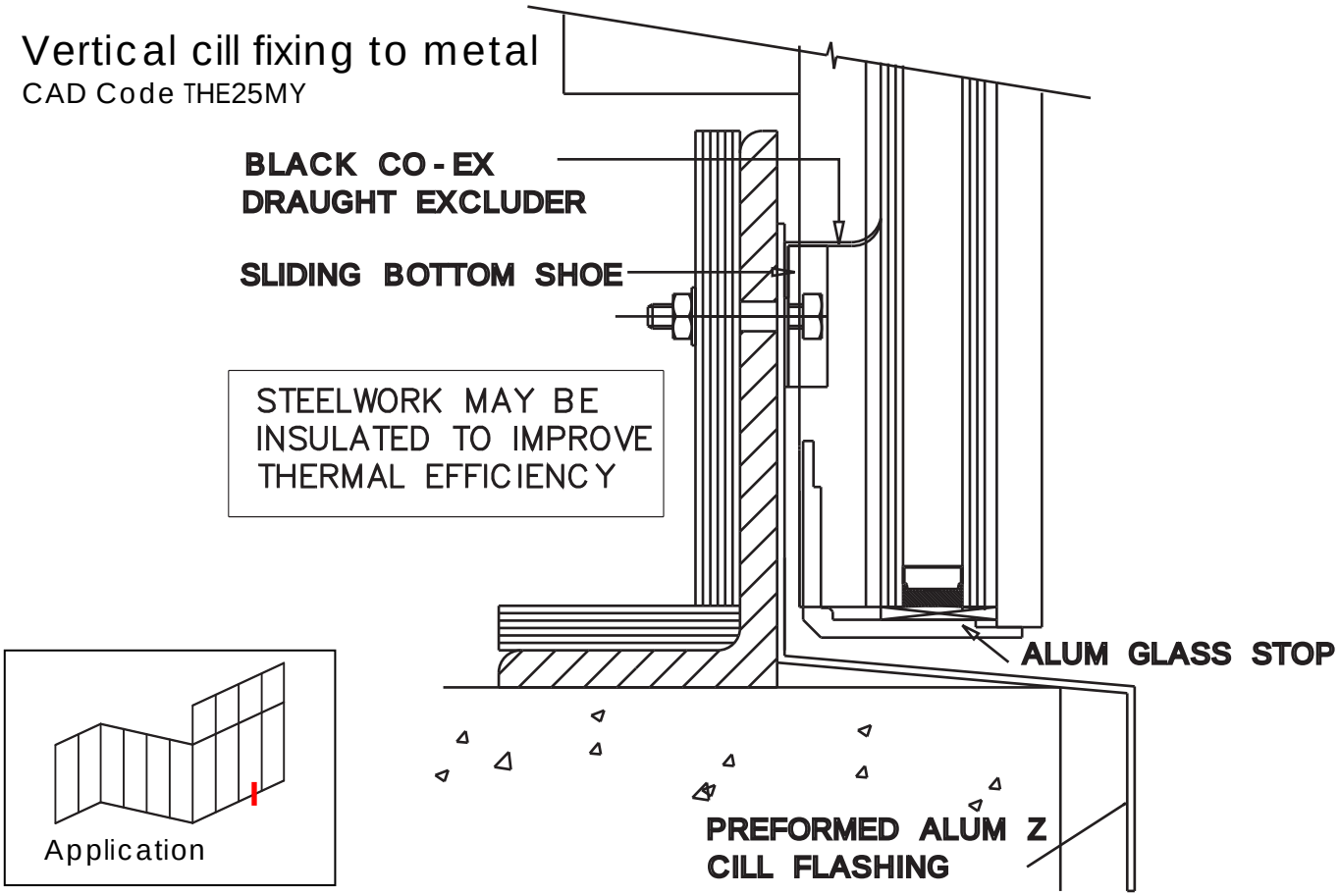
CAD Code THE24TY



Scale of views 1-2

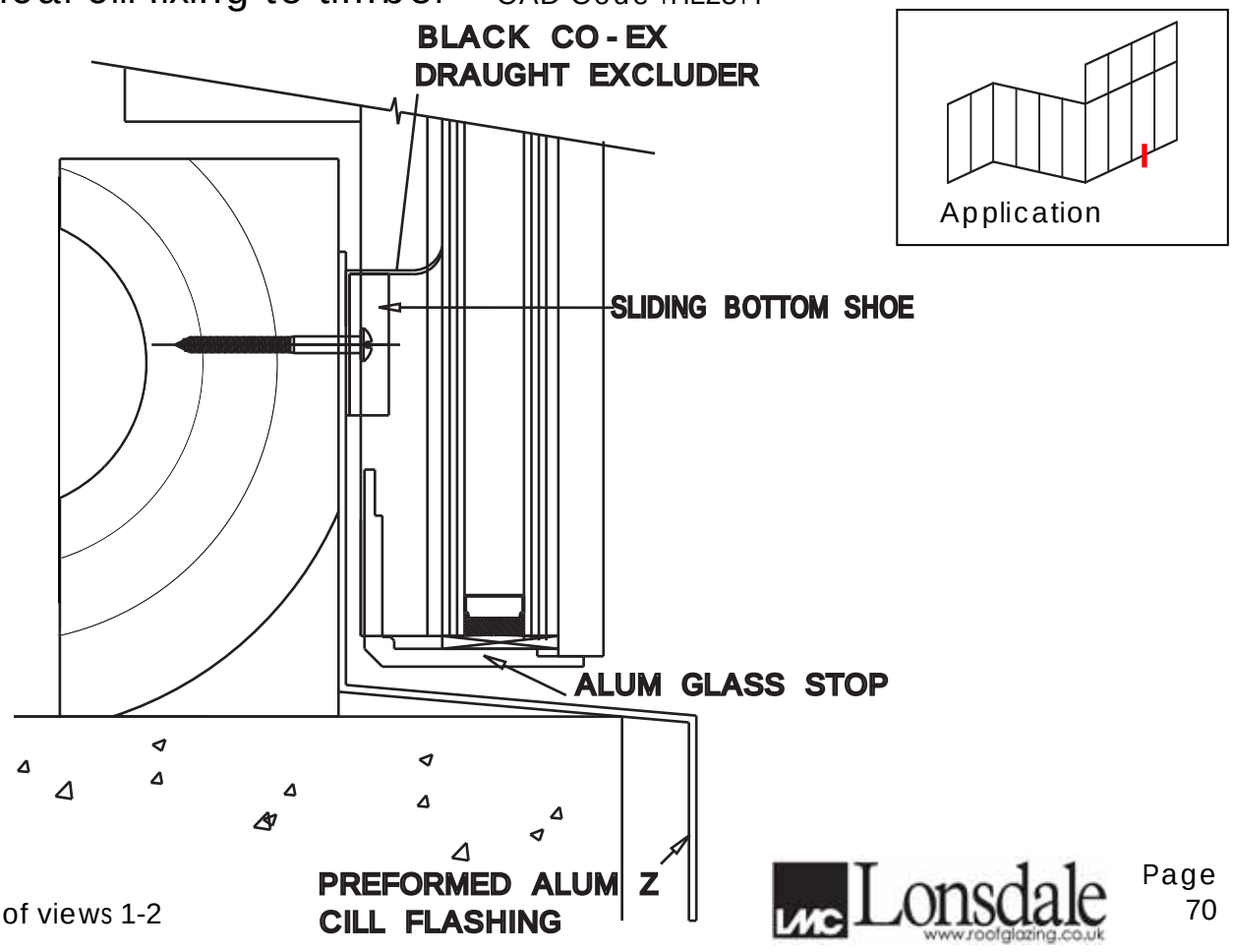
Vertical cill fixing to metal

CAD Code THE25MY



Vertical cill fixing to timber

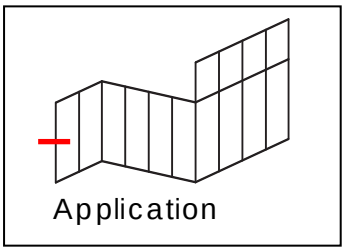
CAD Code THE25TY

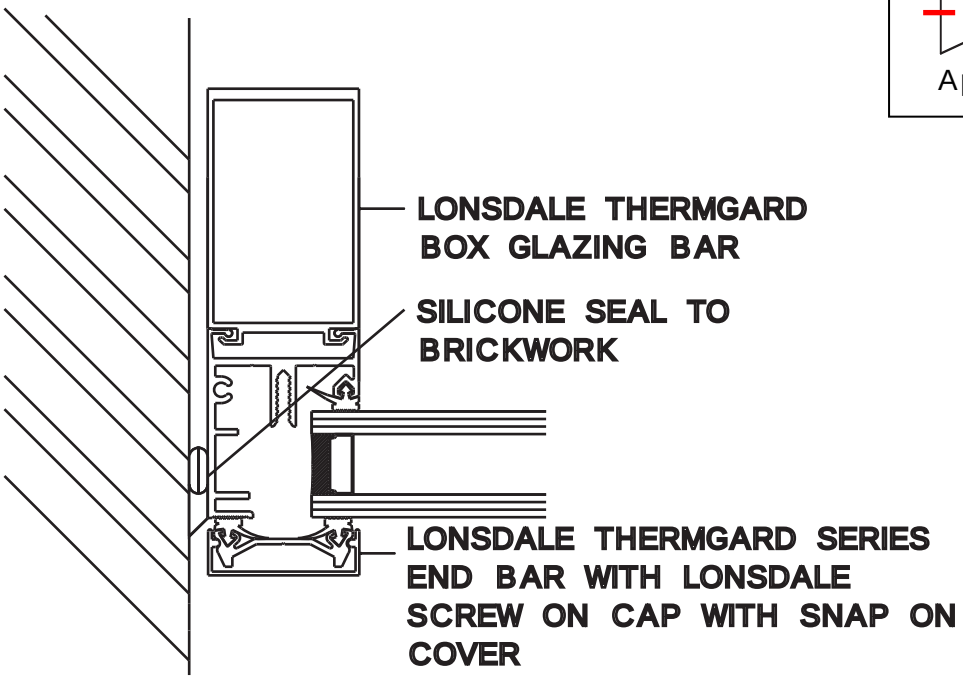


Scale of views 1-2

Vertical jamb to brickwork

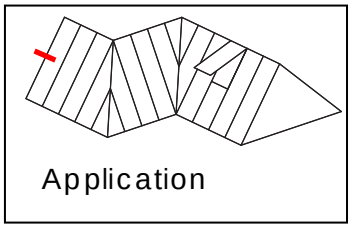
CAD Code THE26Y

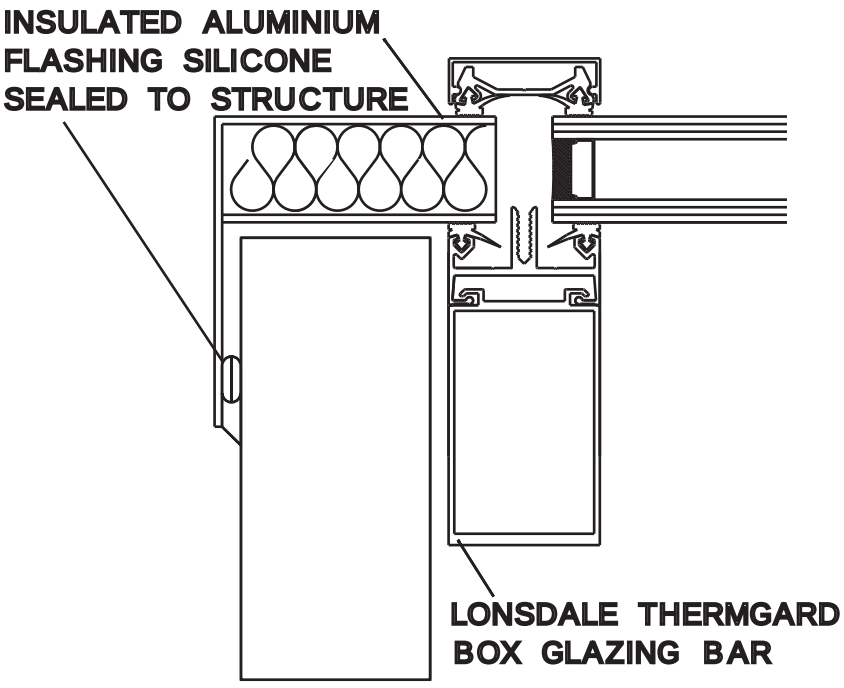




Verge

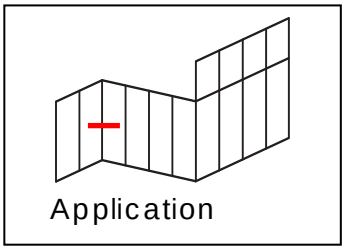
CAD Code THE31Y





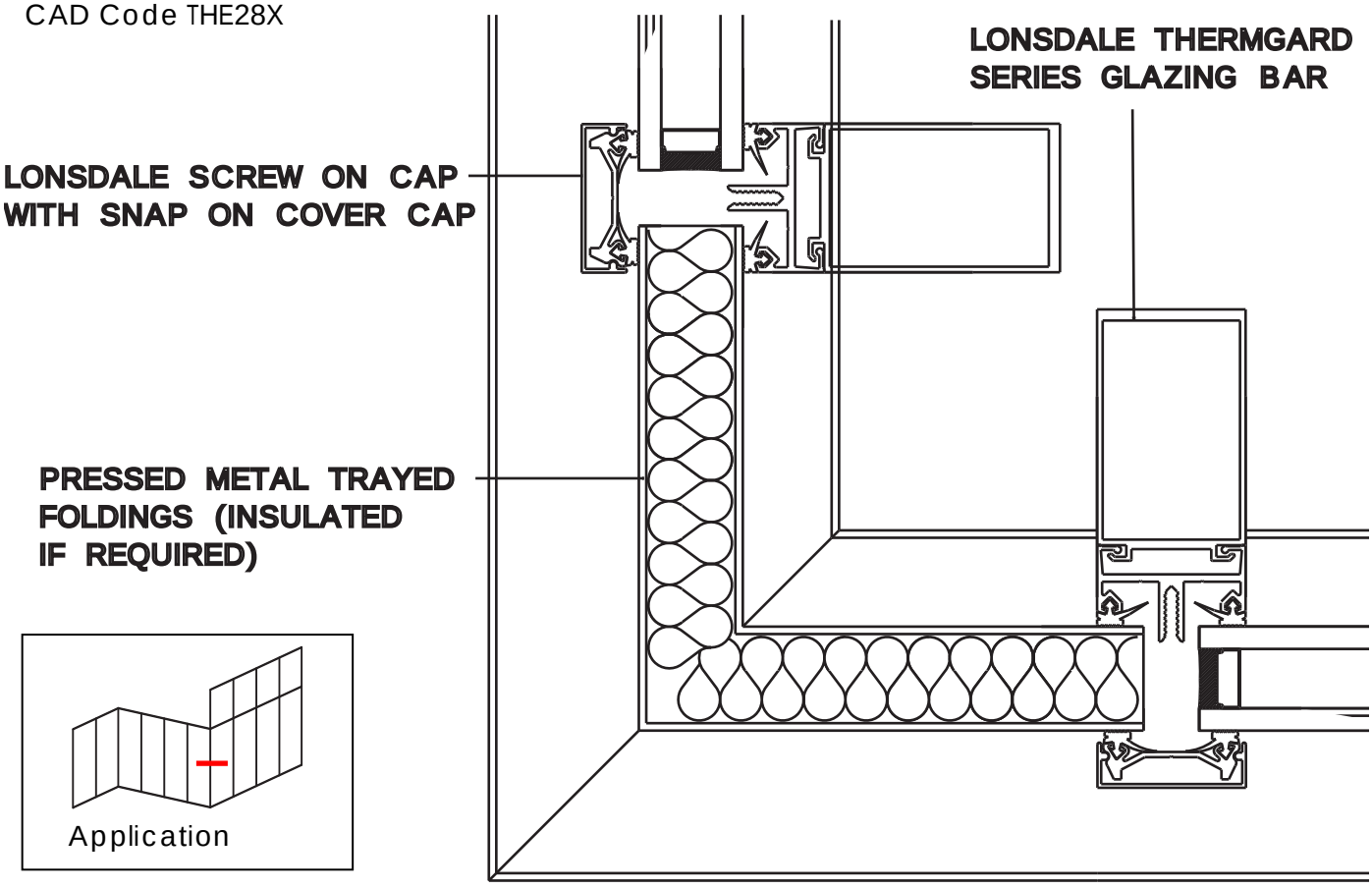
Internal corner to vertical

CAD Code THE27X



External corner to vertical

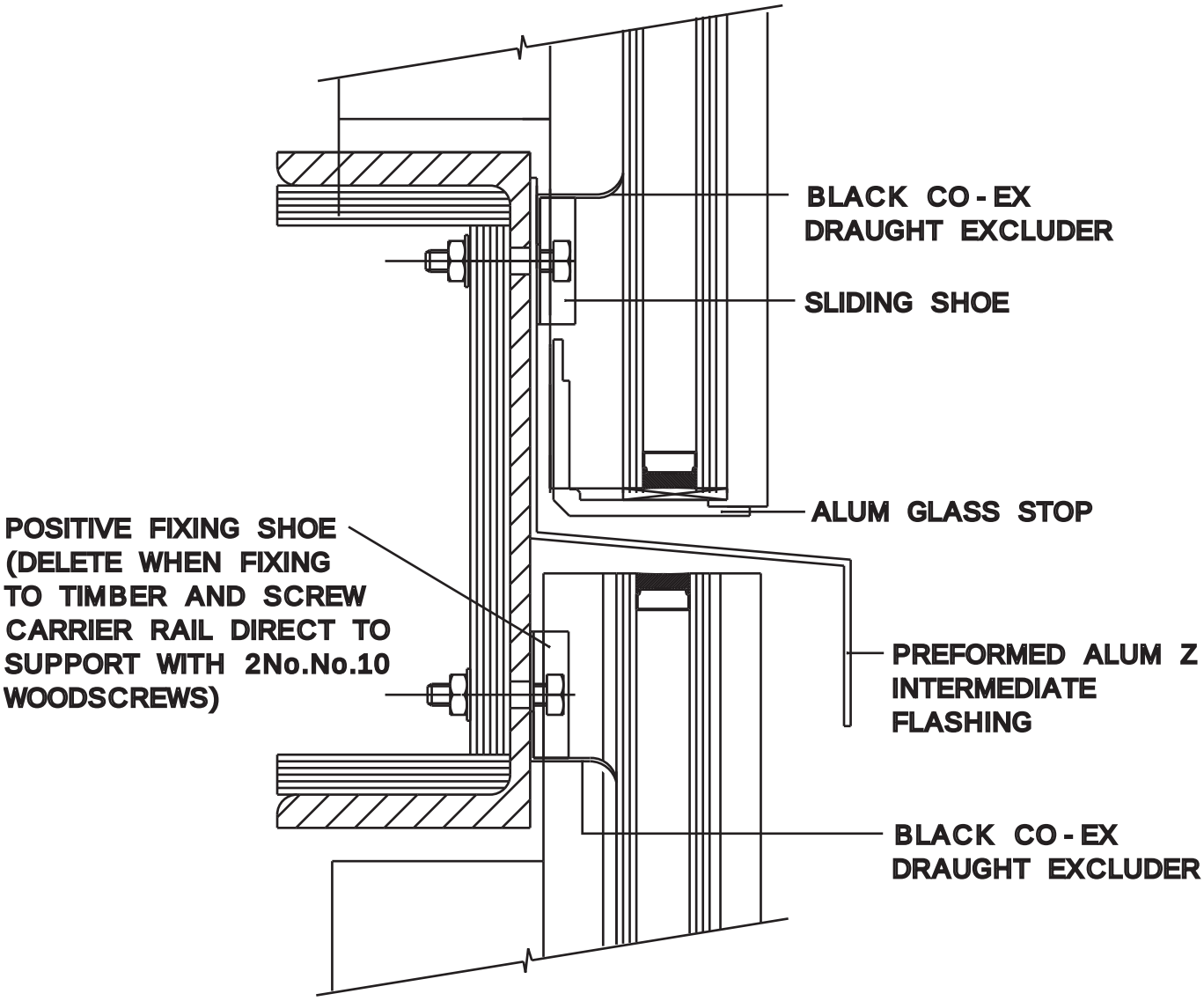
CAD Code THE28X

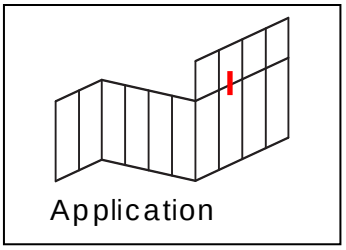


Scale of views 1-2

Vertical intermediate detail

CAD Code THE29Y



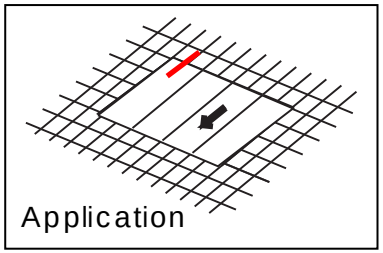


Scale of views 1-2

ThermGard

Top detail into tile or slate roof

CAD Code THE34-TR

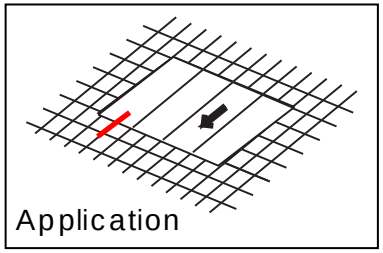


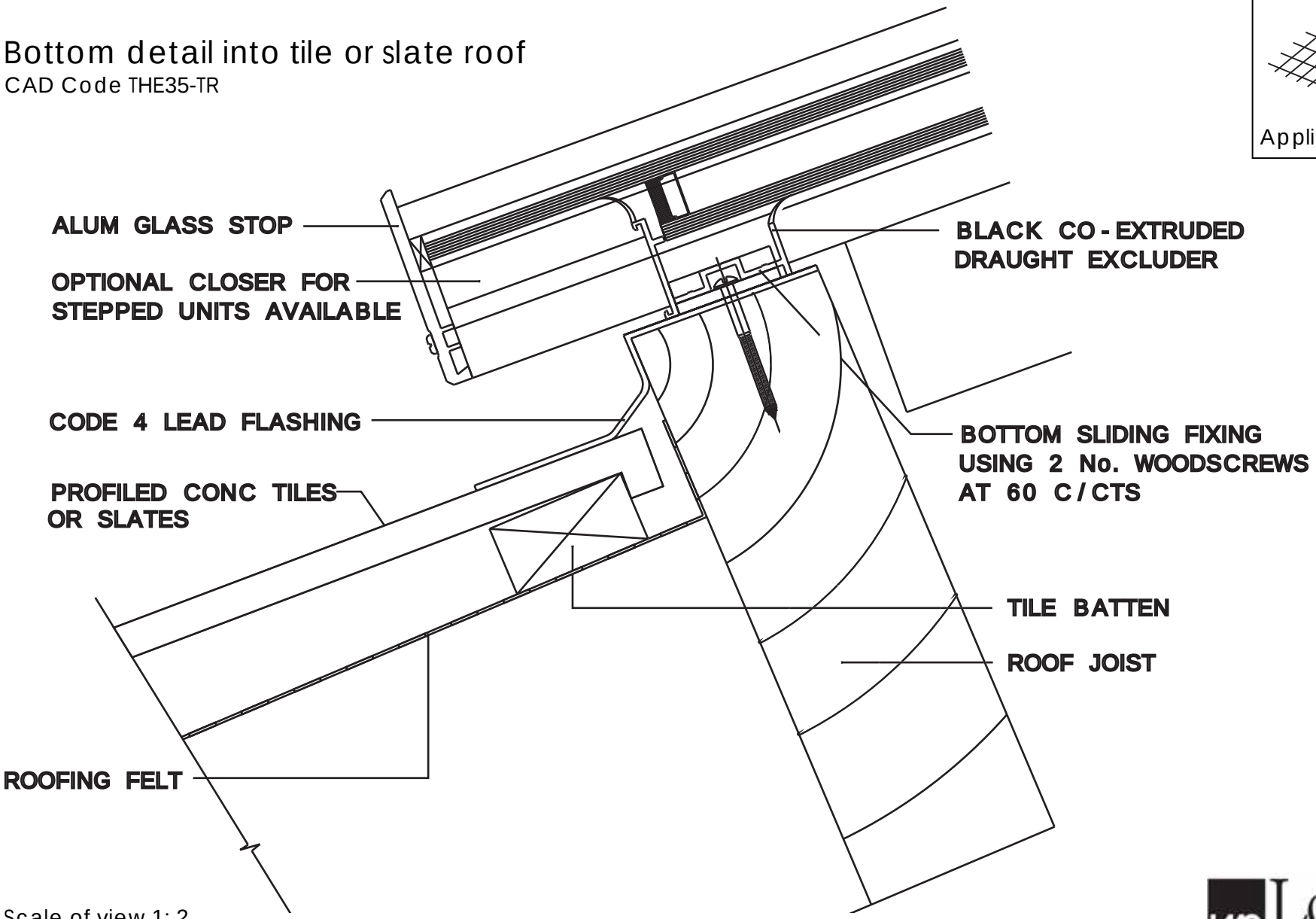
Scale of view 1: 2

ThermGard

Bottom detail into tile or slate roof

CAD Code THE35-TR



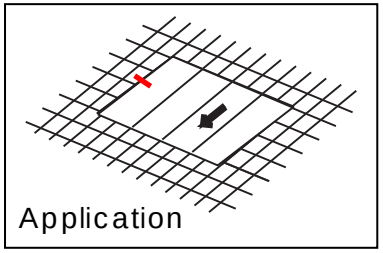


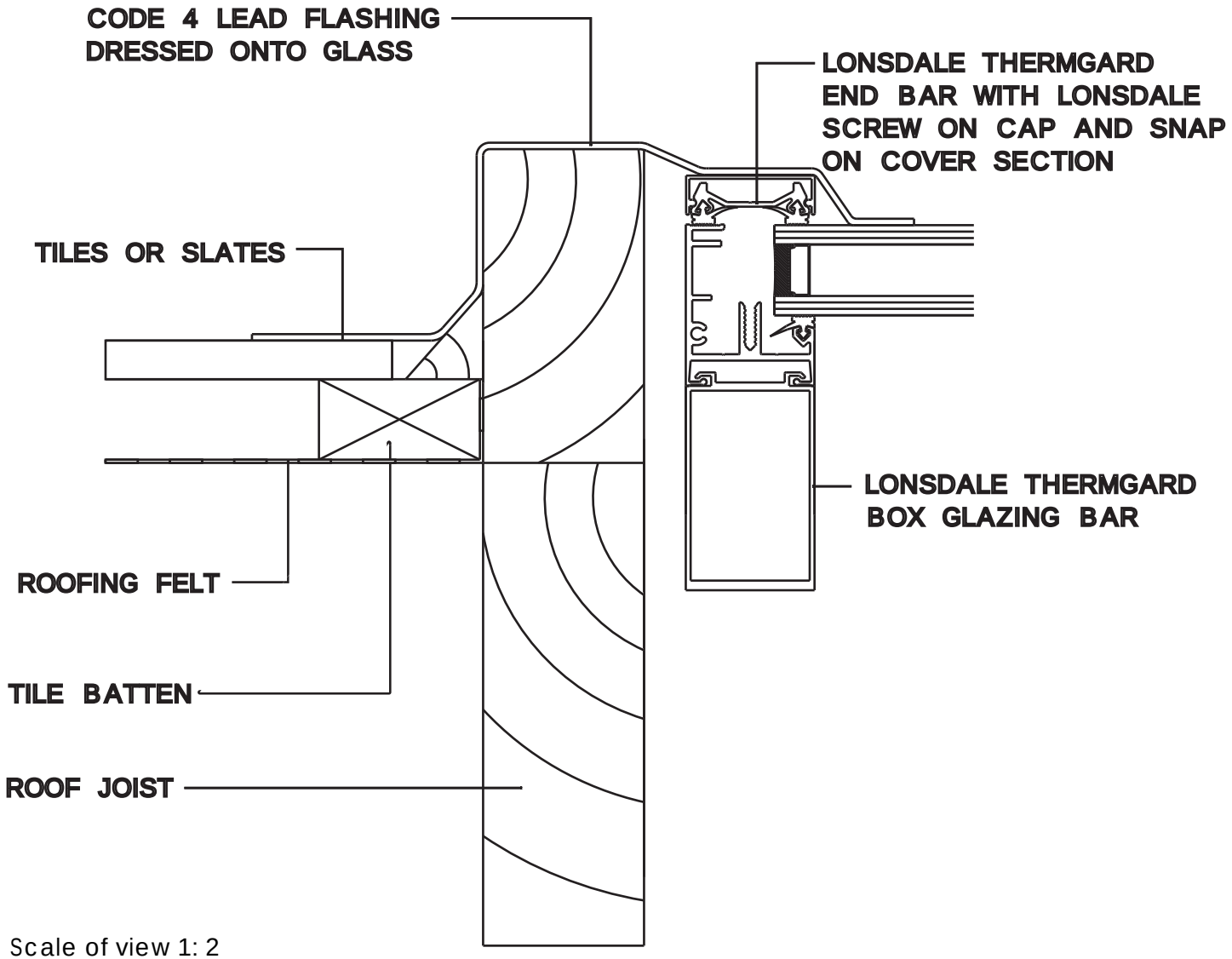
Scale of view 1: 2

ThermGard

Jamb detail into tile or slate roof

CAD Code THE36-TR





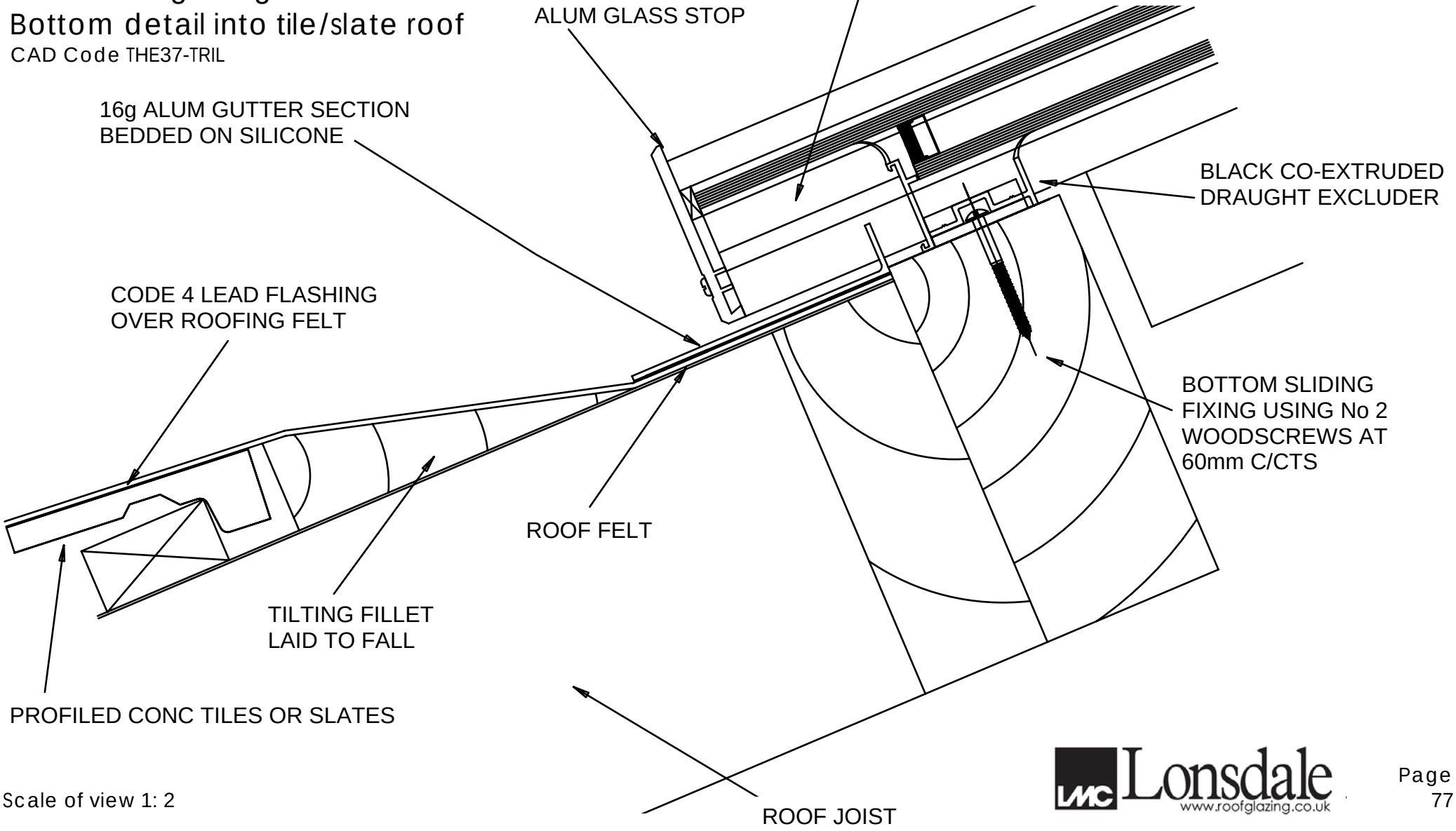
Scale of view 1: 2

ThermGard

In-line roof glazing
Bottom detail into tile/slate roof

CAD Code THE37-TRIL

NOTE: MINIMUM PITCH OF 20°
REFER TO LONSDALE TECHNICAL DEPARTMENT FOR PITCHES BELOW 20°



Scale of view 1: 2

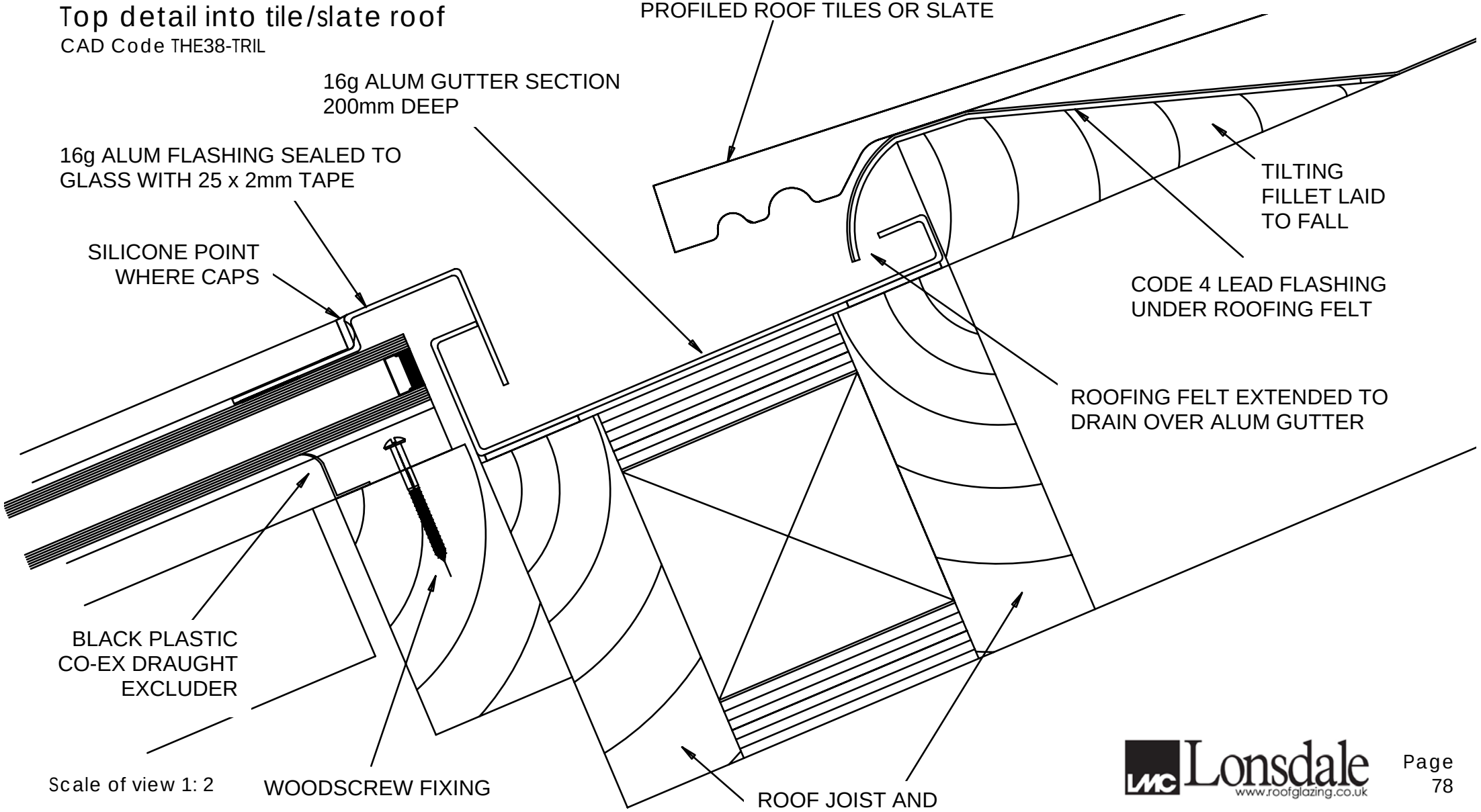
Lonsdale
www.roofglazing.co.uk

ThermGard

In-line roof glazing
Top detail into tile/slate roof

CAD Code THE38-TRIL

NOTE: MINIMUM PITCH OF 20°
REFER TO LONSDALE TECHNICAL DEPARTMENT FOR PITCHES BELOW 20°



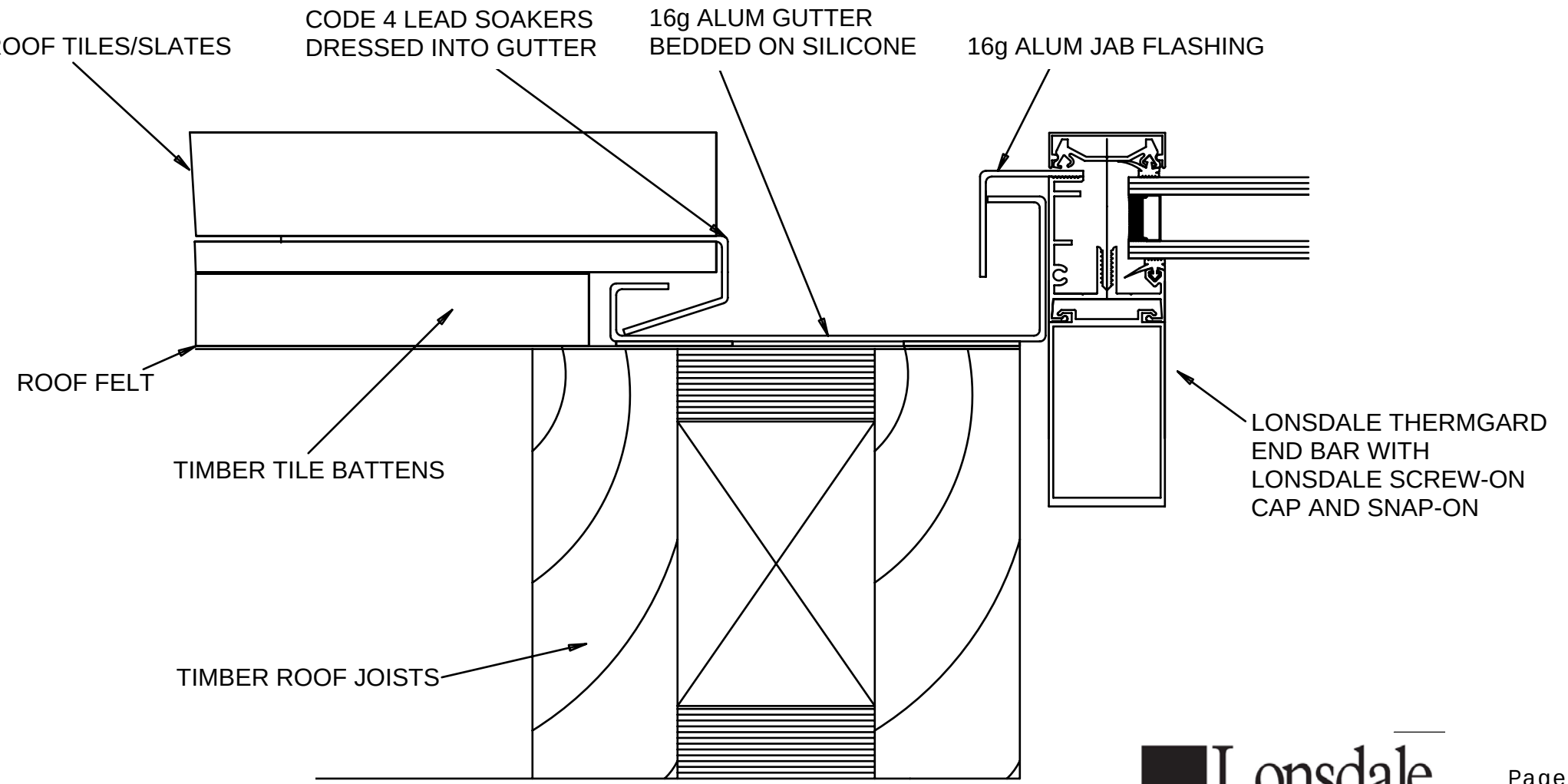
Scale of view 1: 2

Lonsdale
www.roofglazing.co.uk

NOTE: MINIMUM PITCH OF 20°
REFER TO LONSDALE TECHNICAL
DEPARTMENT FOR PITCHES BELOW 20°

In-ling roof glazing
Jamb detail into tile/slate roof

CAD Code THE39-TRIL

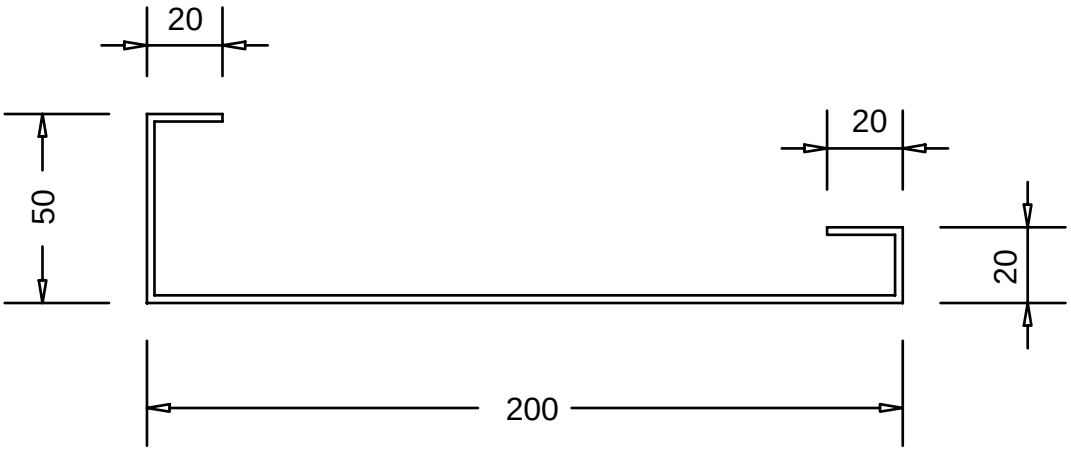


Scale of view 1: 2

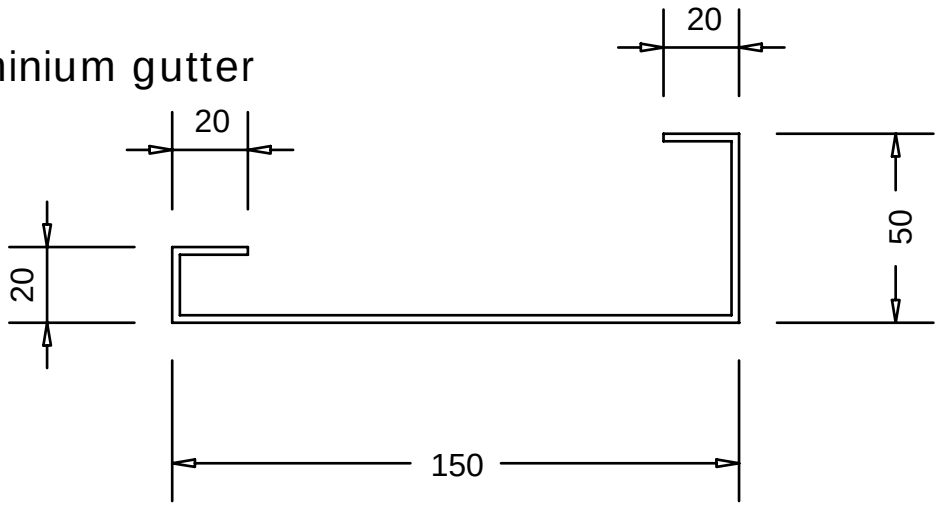
ThermGard

In-line roof glazing gutter profiles
Gutter sections made from 16g aluminium

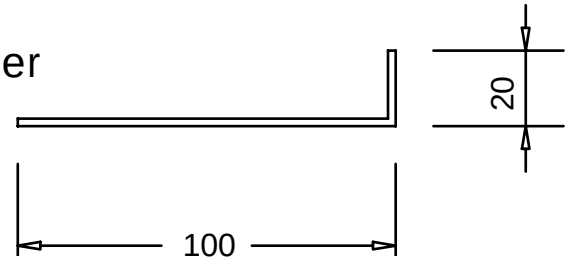
Top aluminium gutter



Jamb aluminium gutter

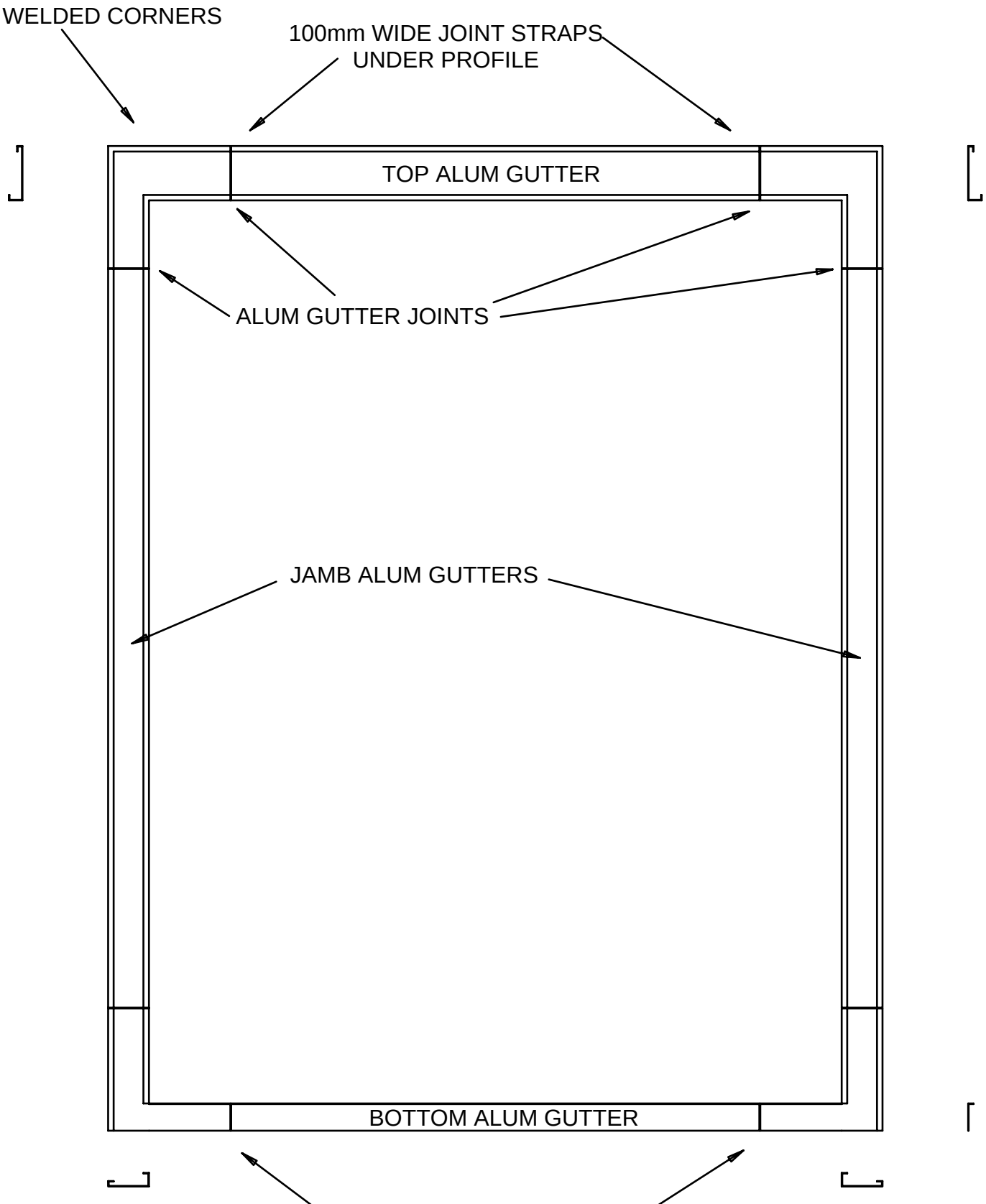


Bottom aluminium gutter



Scale of view 1: 2

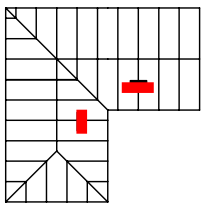
In-line roof glazing gutter layout

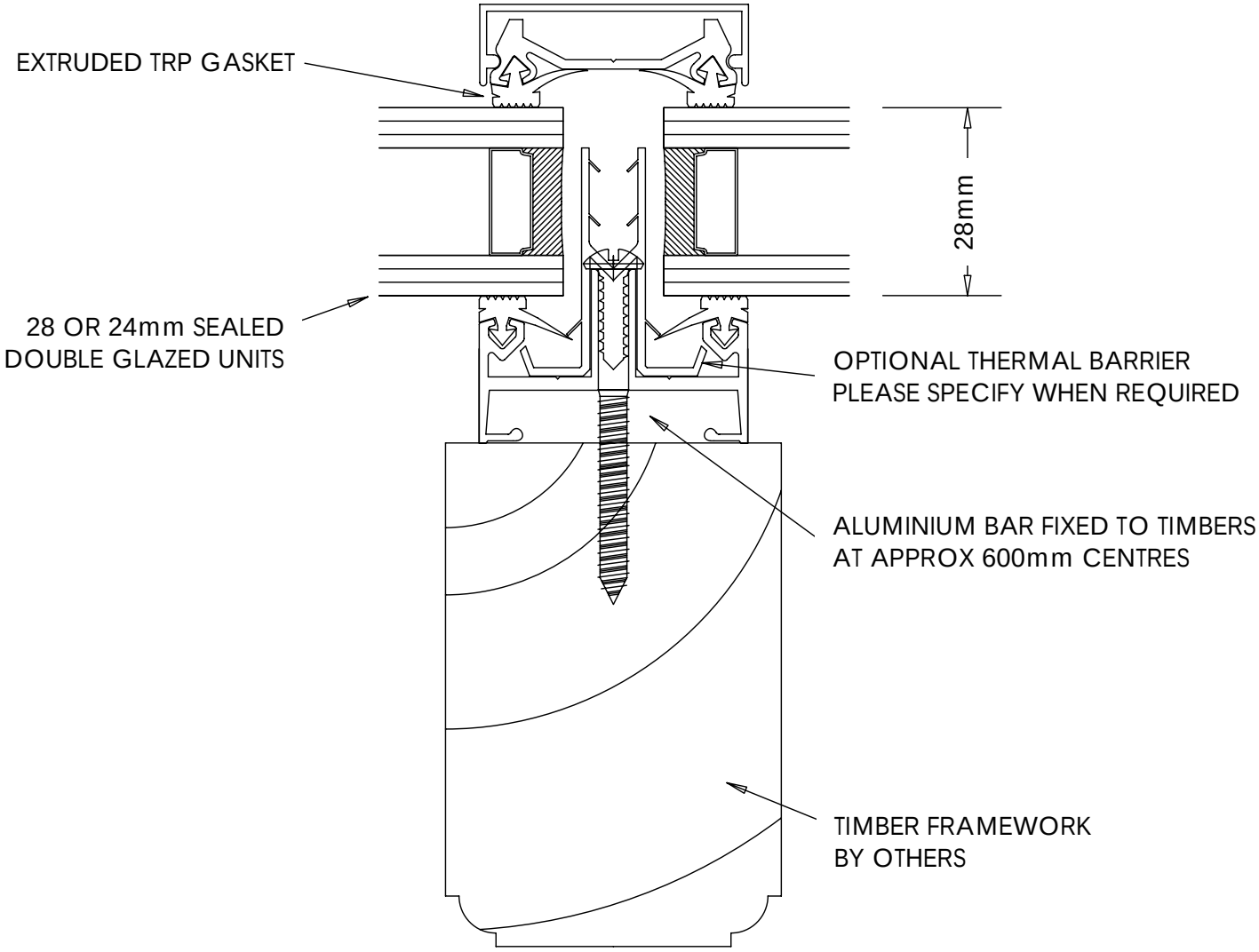


ThermGard Conservatory

ALM100/WF Profile
Typical intermediate bar detail
Cad Code WF01

Application



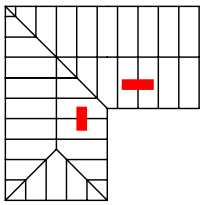


Hardwood Conservatories

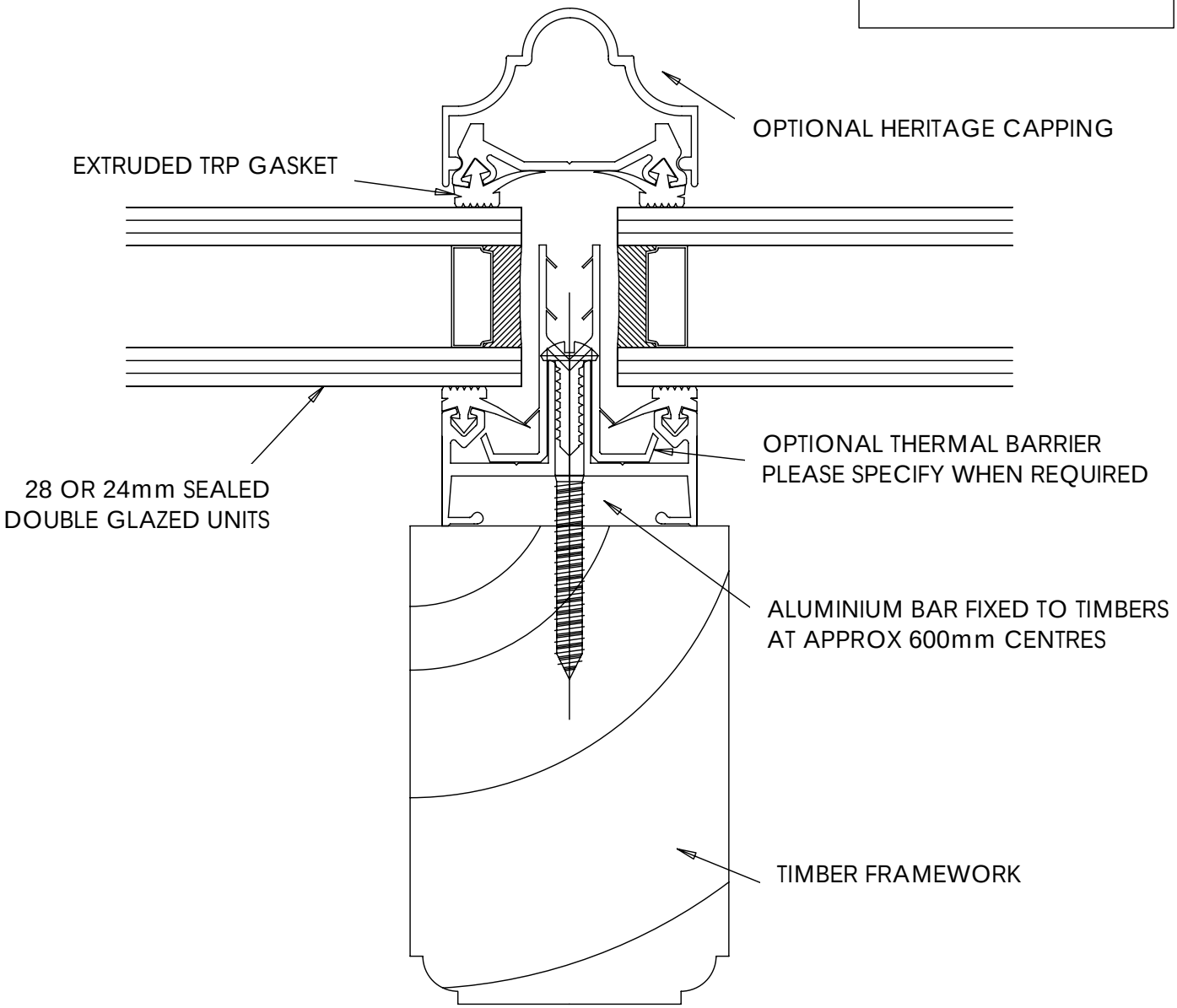
The ALM100/WF profile provides the benefits of high performance weathering and maintenance free roofs to any conservatory, shielding the timber structure from the elements.

Scale of view 1:1

Application



ALM100/HCWF Profile
Typical intermediate bar detail
Cad Code WF02



Hardwood Conservatories

The ALM100/HCWF profile provides the benefits of high performance weathering and maintenance free roofs to any conservatory, shielding the timber structure from the elements.

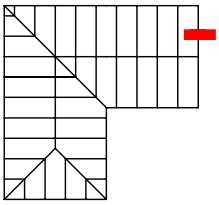
Scale of view 1:1

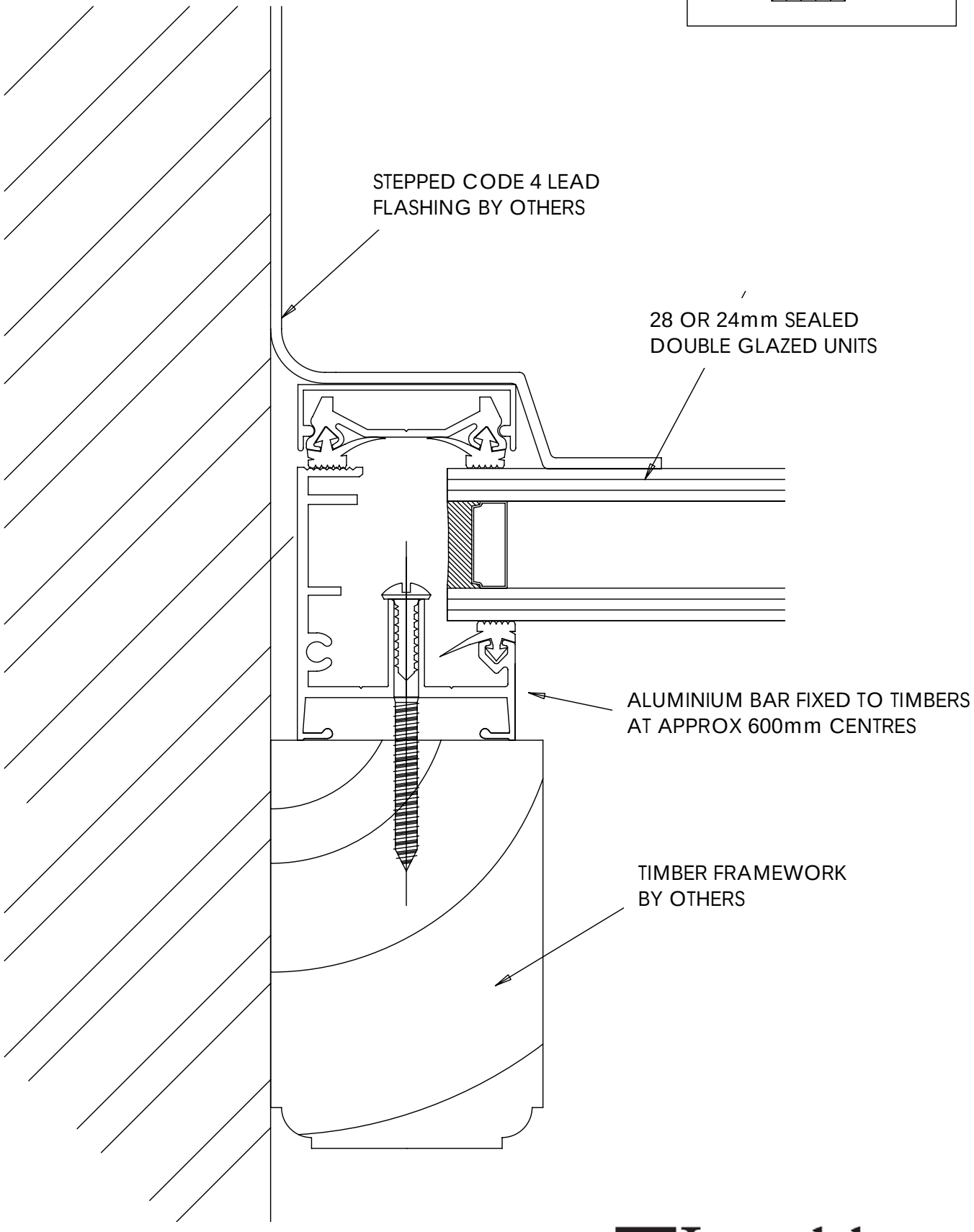
ThermGard Conservatory

Jamb detail abutting to brickwork

Cad Code WF03

Application





Scale of view 1:1

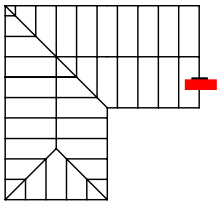
Lonsdale
www.roofglazing.co.uk

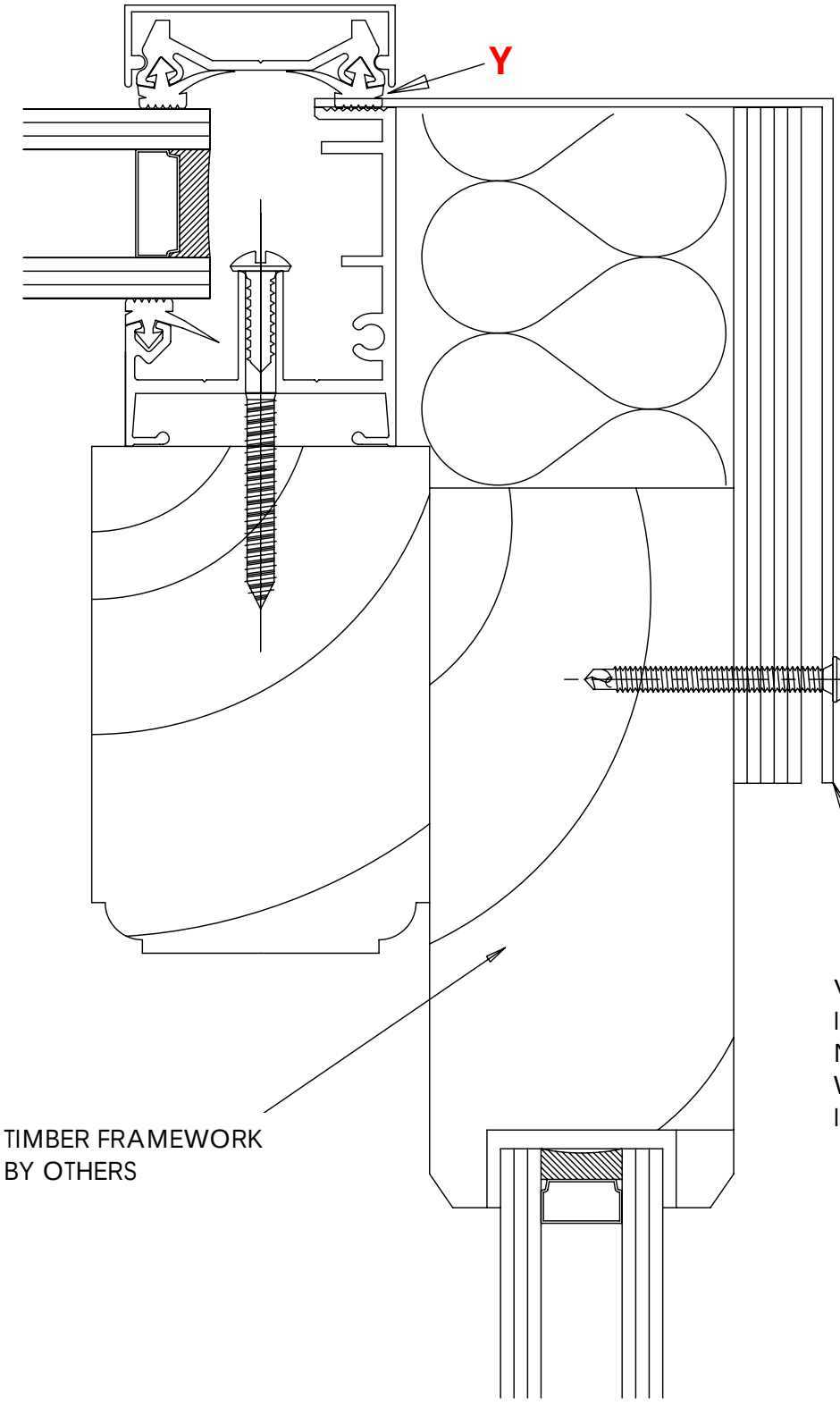
ThermGard Conservatory

Typical verge detail

Cad Code WF04

Application





VERGE FLASHING AND
INSULATION BOARD
N.B. GASKET **Y** NOT FITTED
WHERE VERGE FLASHING
IS REQUIRED

TIMBER FRAMEWORK
BY OTHERS

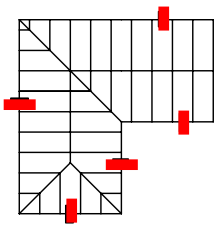
Scale of view 1:1

ThermGard Conservatory

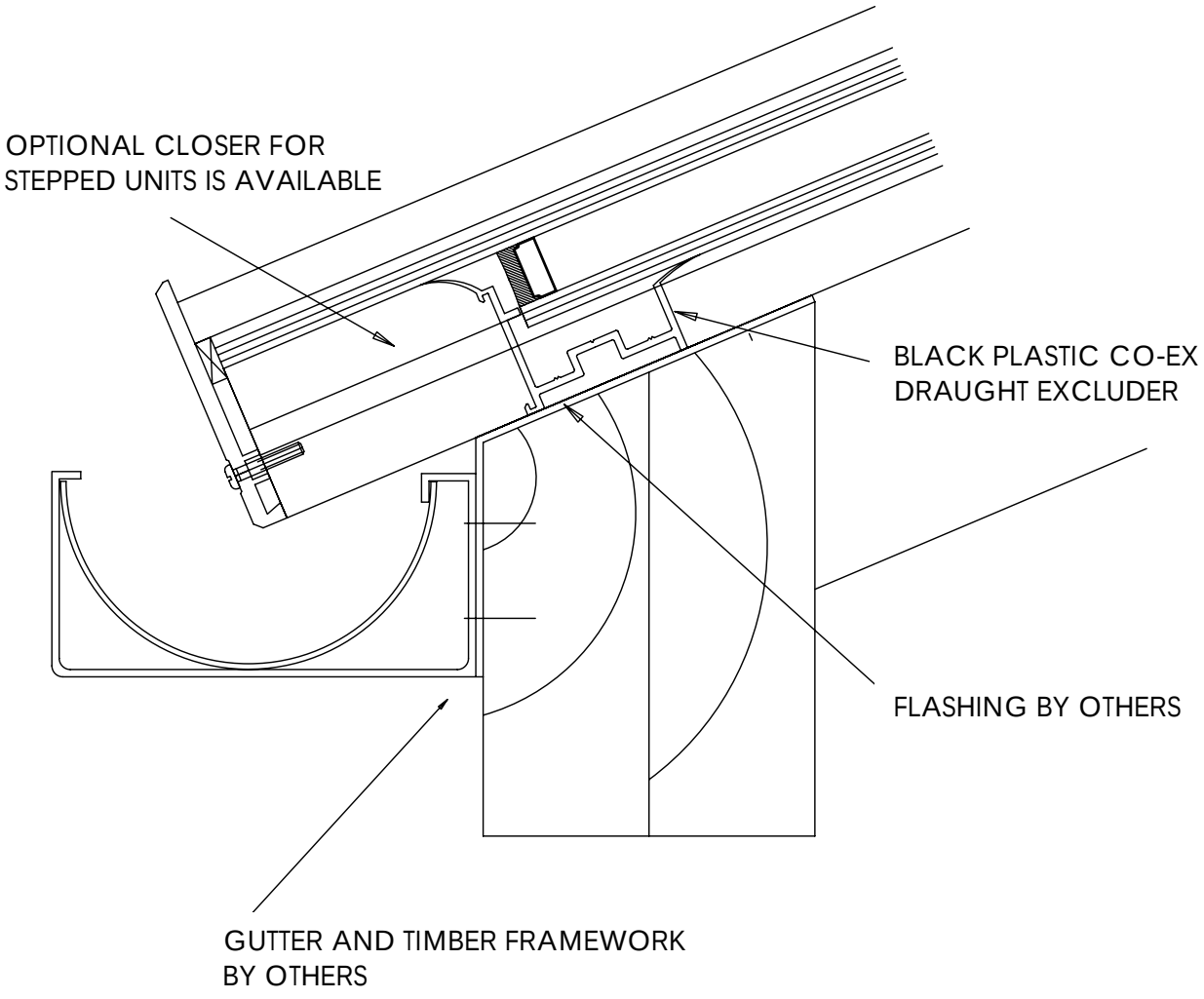
Eaves perimeter detail

Cad Code WF05

Application



STANDARD GLASS STOP FIXED TO BOTTOM OF BAR.
NOTE: HEAVY DUTY STOPS ARE REQUIRED WHERE
BAR LENGTH IS EQUAL TO OR GREATER THAN
3000mm AND/OR ROOF PITCH EXCEEDS 35°



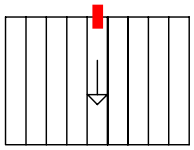
Scale of view 1: 2

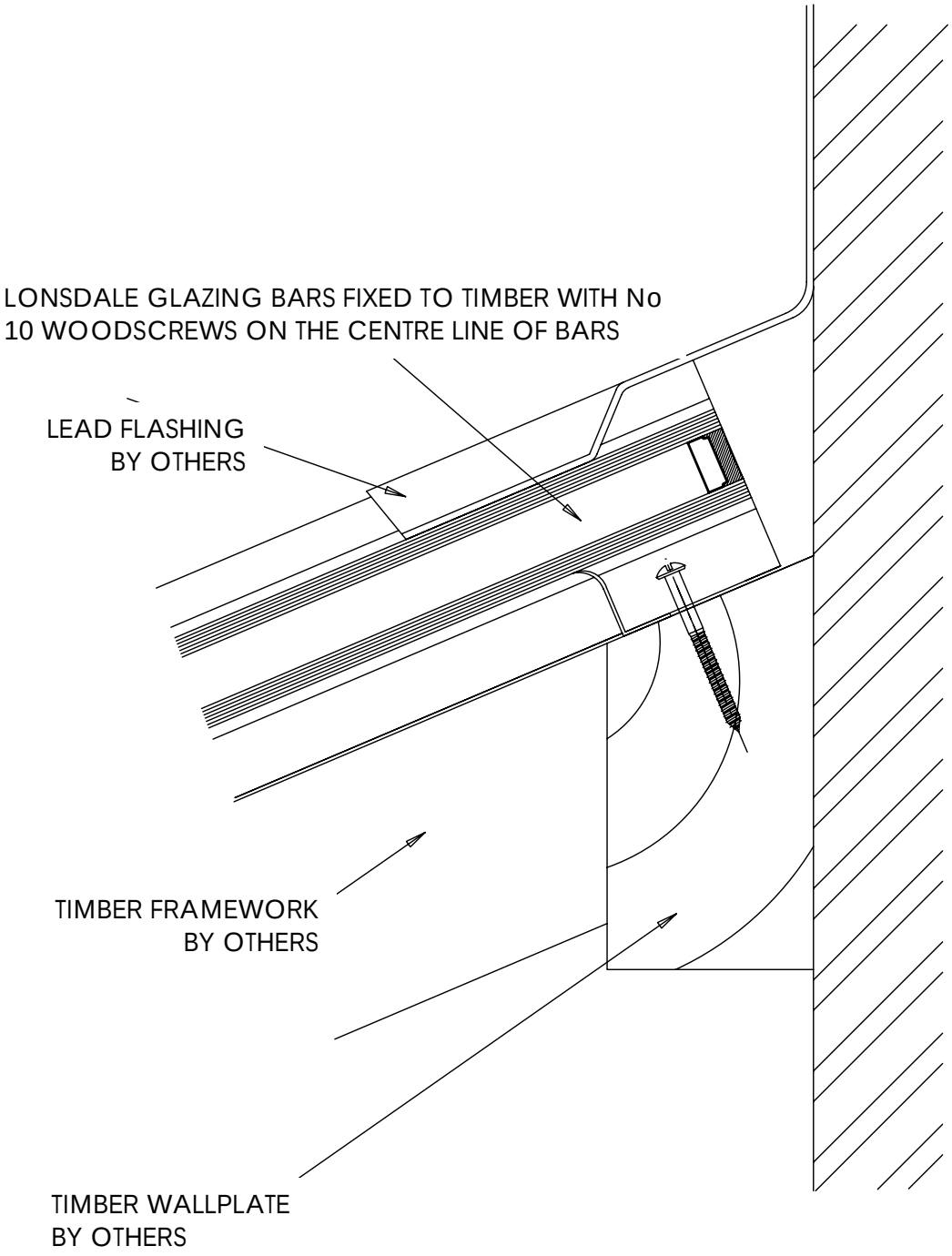
ThermGard Conservatory

Top mono-pitch detail

Cad Code WF06

Application





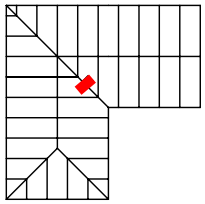
Scale of view 1: 2

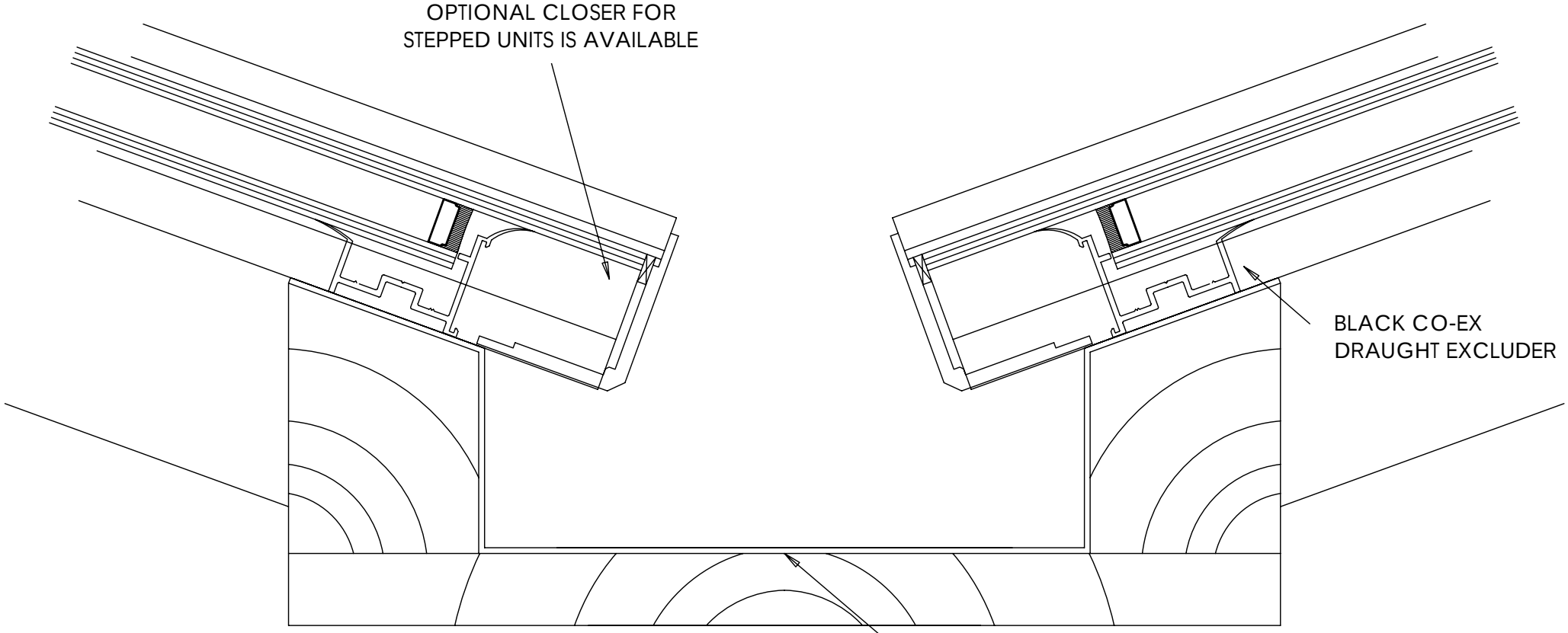
ThermGard Conservatory

Roof valley gutter detail timber lead-lined

Cad Code WF07

Application





Scale of view 1: 2

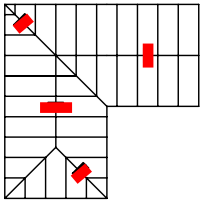
Lonsdale
www.roofglazing.co.uk

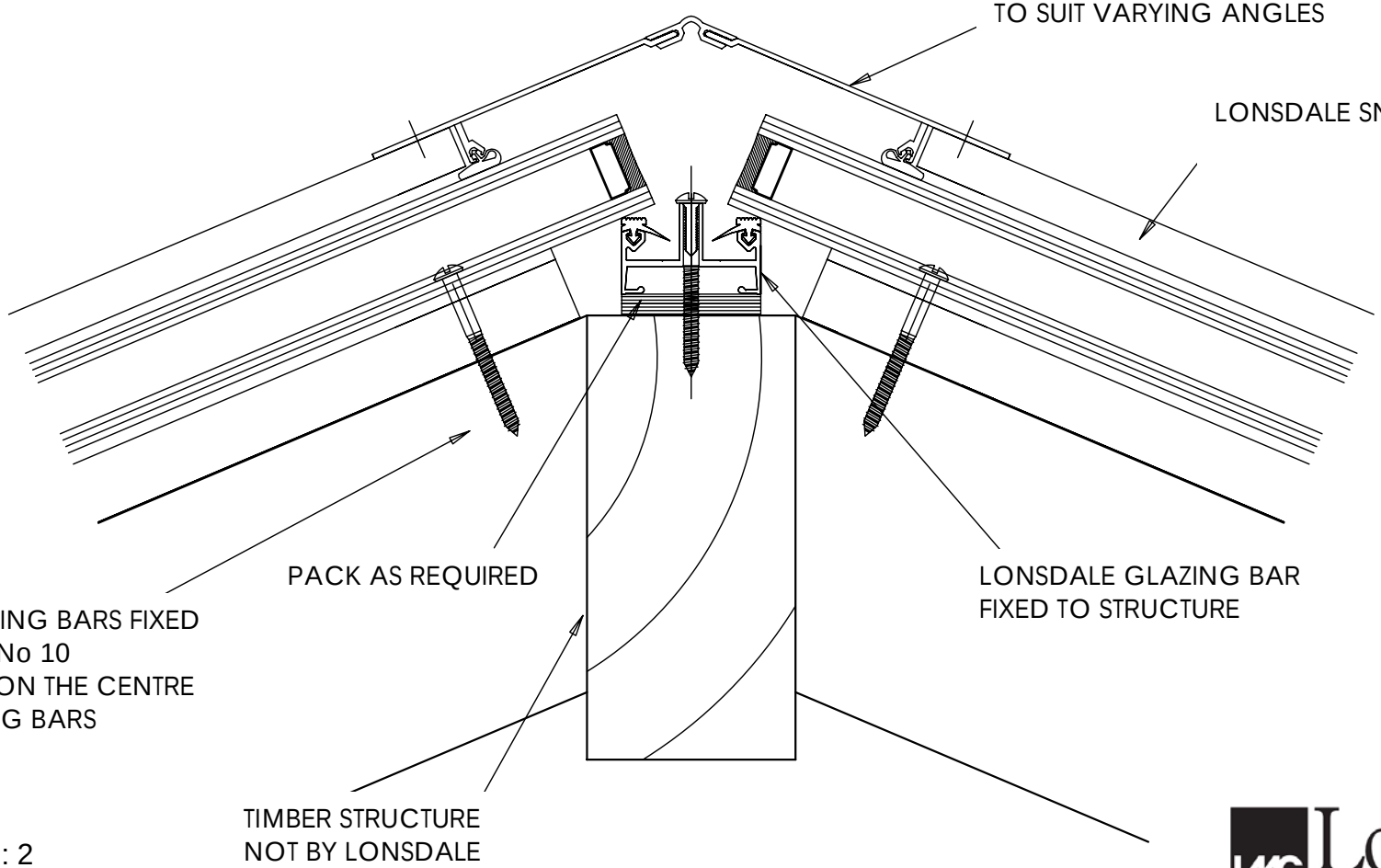
ThermGard Conservatory

Ridge and Hip details

Cad Code WF08

Application





Scale of view 1: 2

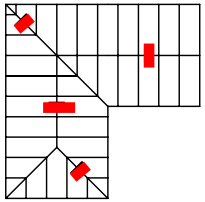
ThermGard Conservatory

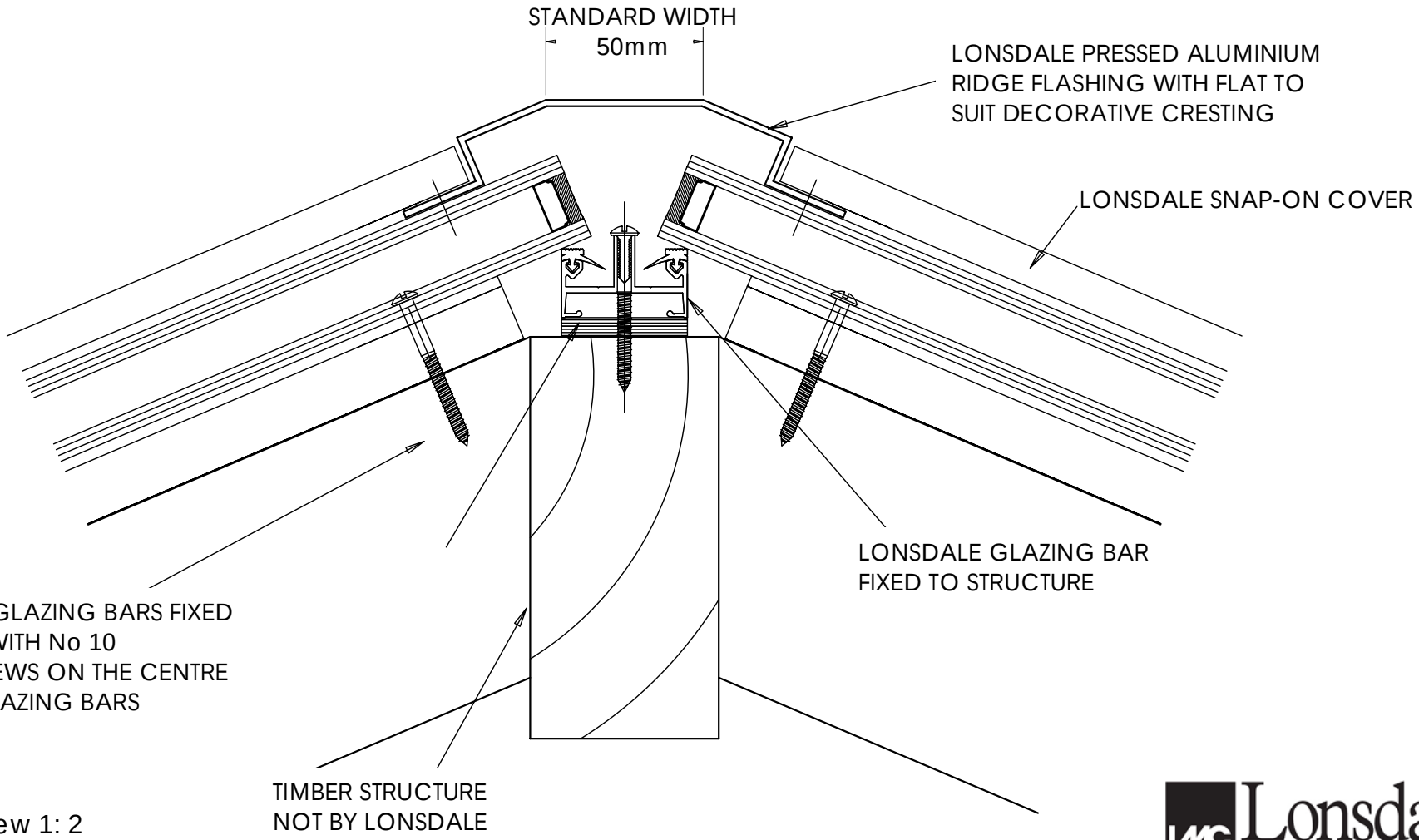
Ridge detail for decorative cresting

Cad Code WF09

PLEASE NOTE THE SAME PROFILE MUST BE USED ON HIPS

Application





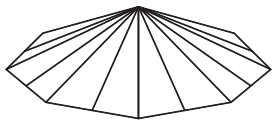
Scale of view 1: 2

SpanGard

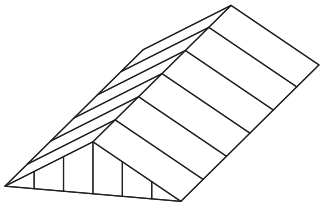
SpanGard, the self-supporting structure with a proven track record, allowing maximum light penetration and high performance weathering. Attention to detail and quality manufacturing ensures a neat slim-line appearance providing a strong, durable product giving many years good service. The sophisticated SpanGard remains unequalled in terms of value for money and performance.

- Each order individually " built" on computer software before manufacture to ensure accuracy.
- The widest range of shapes and sizes up to 6m wide with no length restrictions.
- Suitable for small domestic extensions through atria roofs.
- No additional structural supports or steel work required up to specified limits.
- Box-rafter construction provides invisible fixings, fast installation and ultimate strength.
- Thermally improved option available.

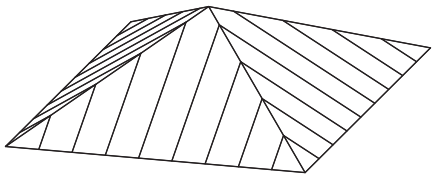
Skylights Some typical shapes



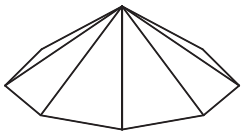
Muli Faceted



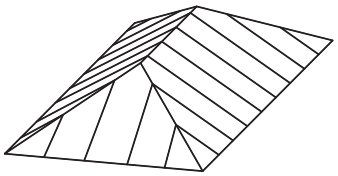
Gable ended



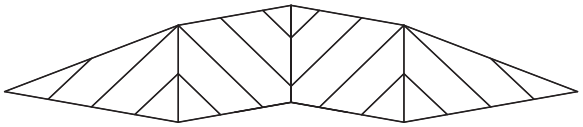
Pyramid



Hexagonal or Octagonal

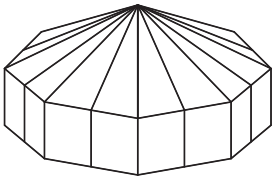


Hipped

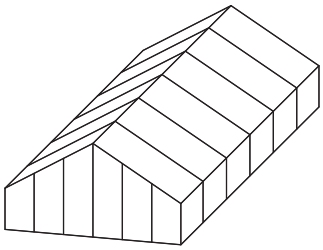


Special Shapes

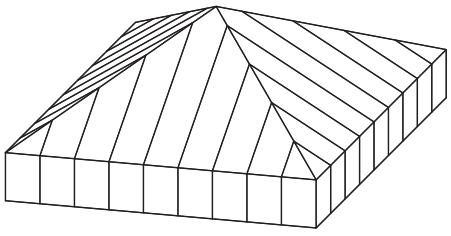
Lantern Lights Some typical shapes



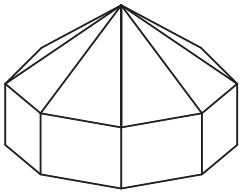
Muli Faceted



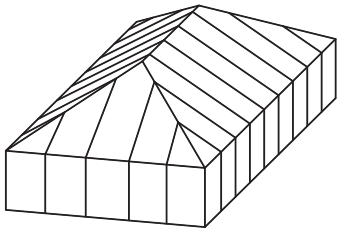
Gable ended



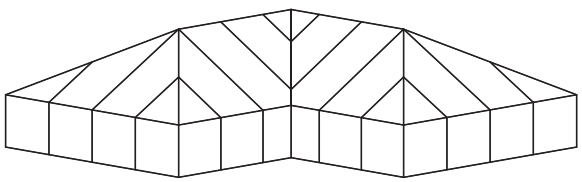
Pyramid



Hexagonal or Octagonal



Hipped

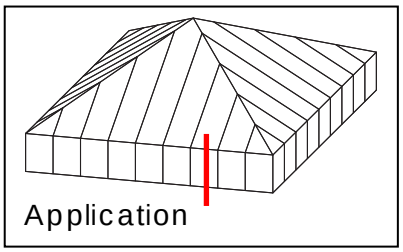


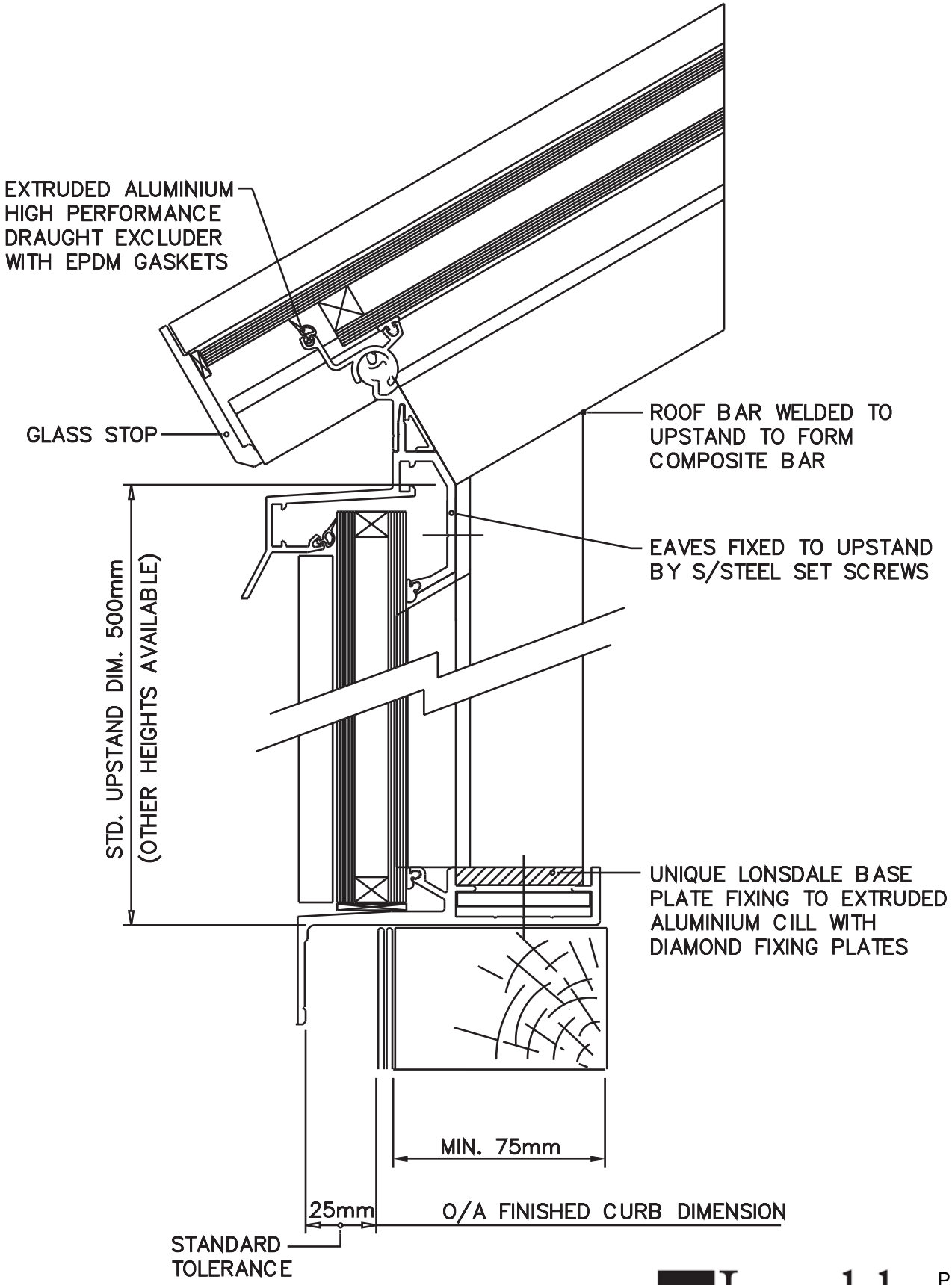
Special Shapes

SpanGard

Lantern light up-stand

CAD Code SPA1Y

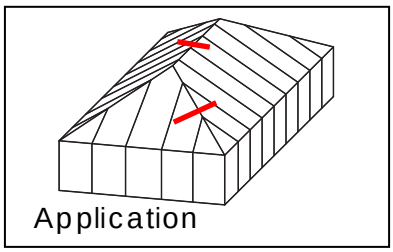




Scale of view 1: 2

Lantern /Skylight typical ridge/hip

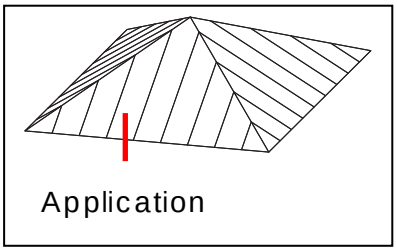
CAD Code SPA3Y

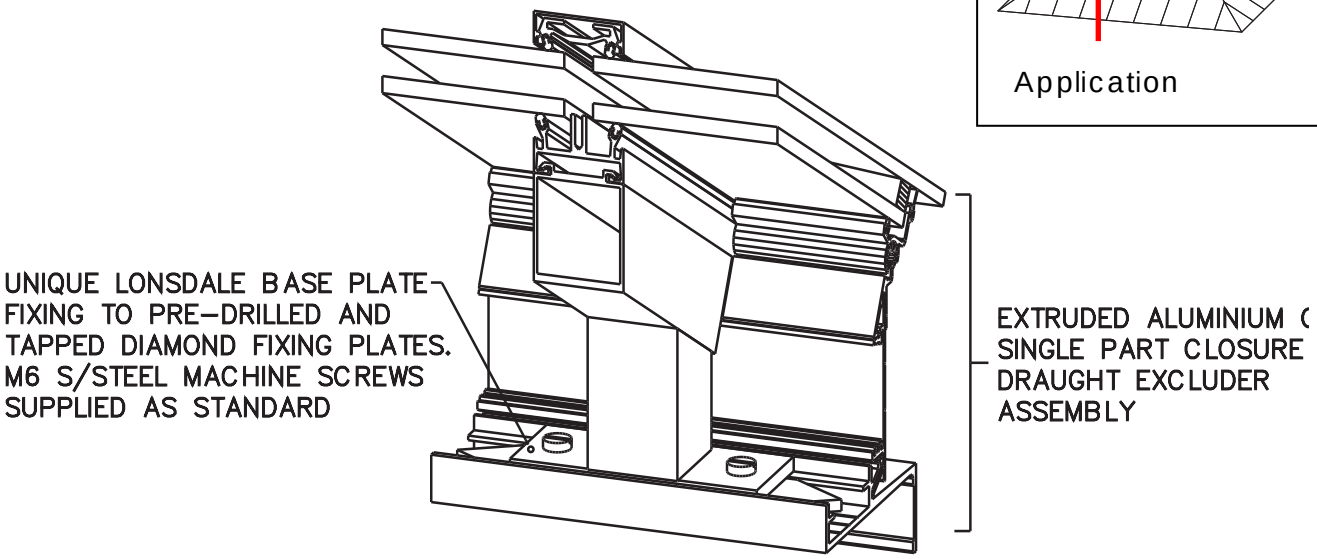


Scale of view 1: 2

Isometric of typical skylight cill

CAD Code SPA5I



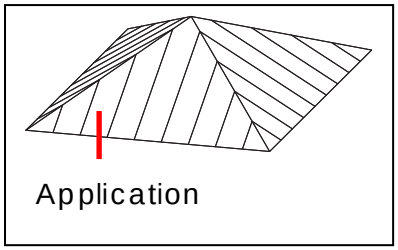


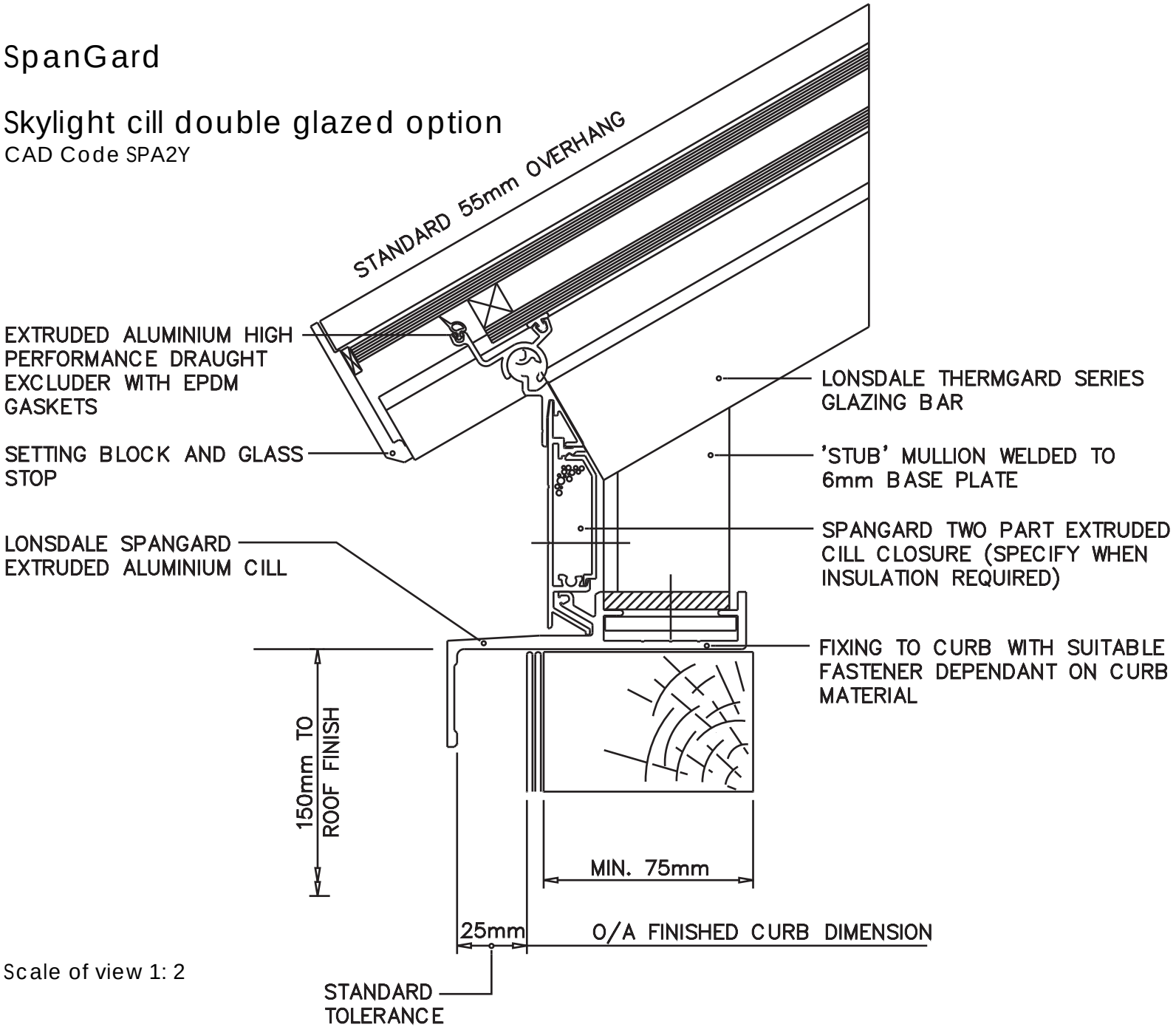
View not to scale

SpanGard

Skylight cill double glazed option

CAD Code SPA2Y



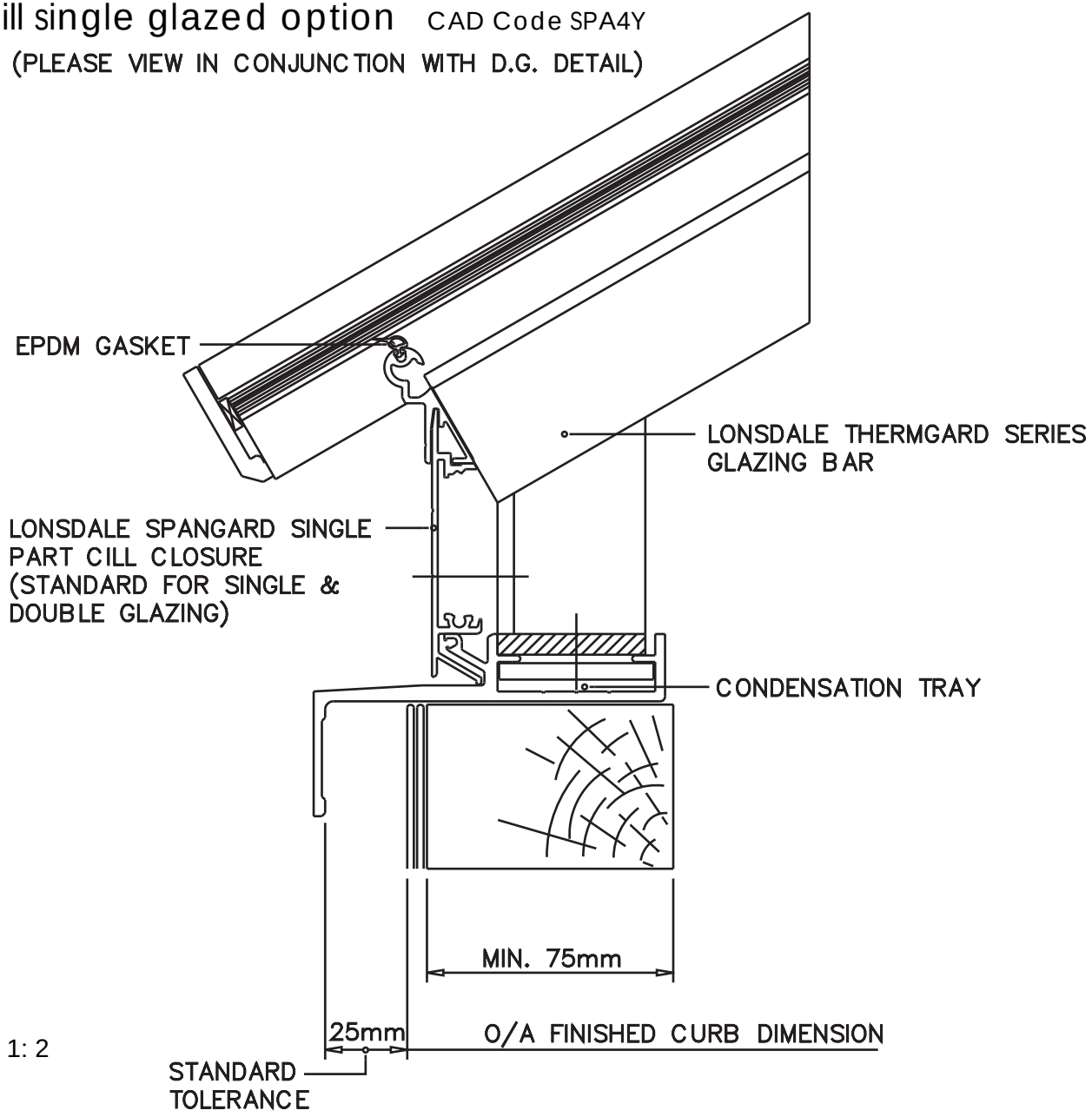


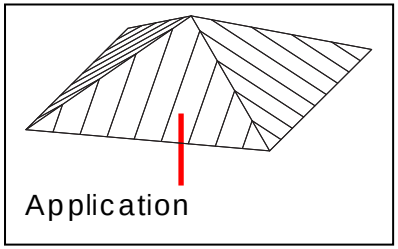
Scale of view 1: 2

SpanGard

Skylight cill single glazed option CAD Code SPA4Y

(PLEASE VIEW IN CONJUNCTION WITH D.G. DETAIL)



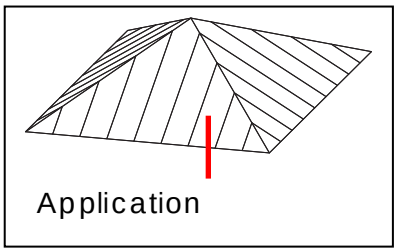


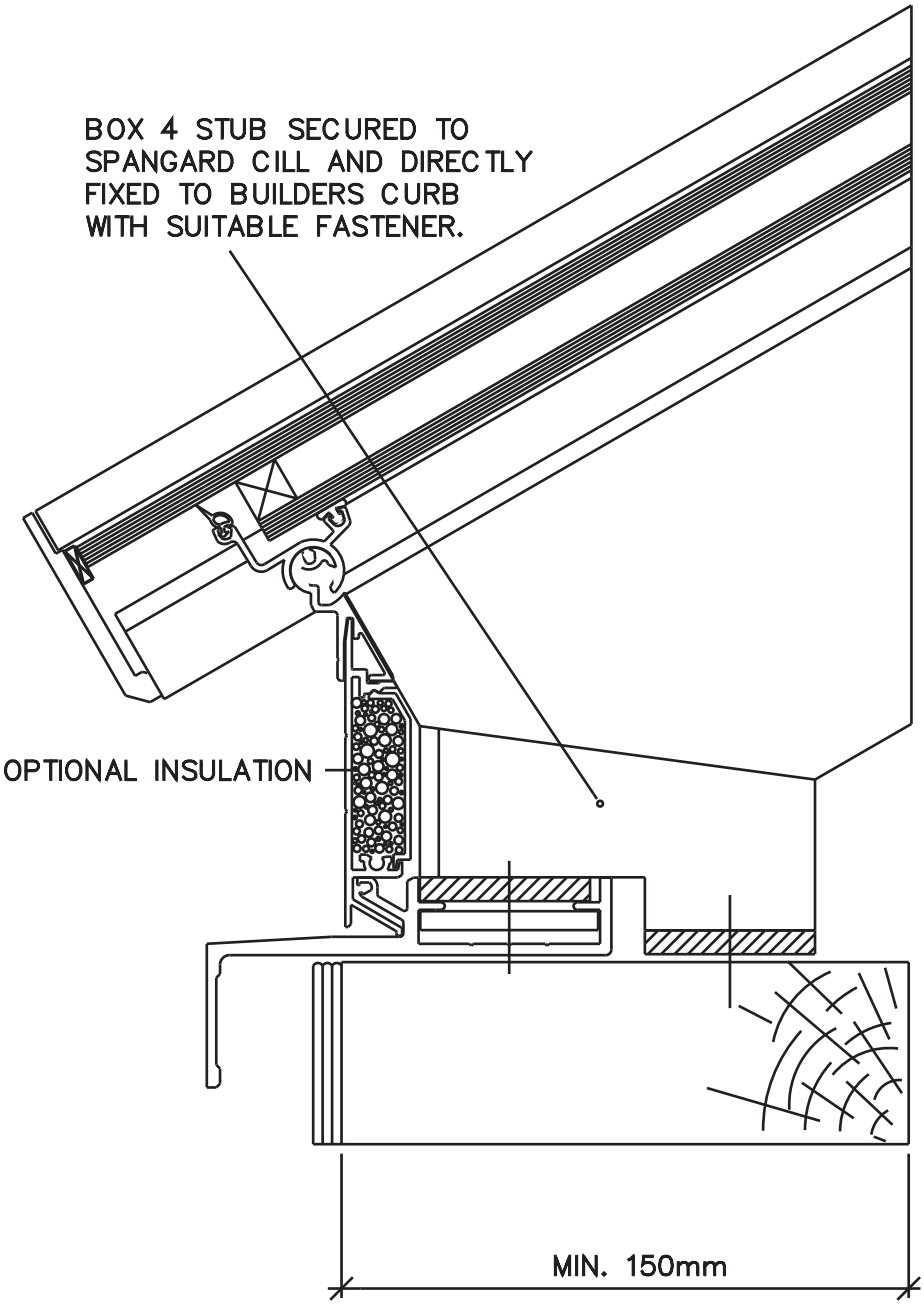
Scale of view 1: 2

SpanGard

Heavy duty truss bar cill detail

CAD Code SPA6Y - Skylight





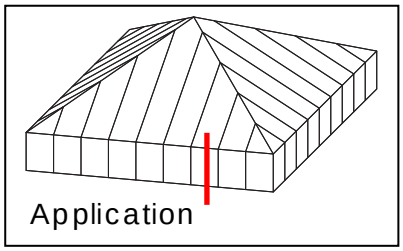
SKYLIGHT

Scale of view 1: 2

SpanGard

Heavy duty truss bar cill detail

CAD Code SPA6Y – Lantern light



LANTERN LIGHT

Scale of view 1: 2

Sizing matrix

Approximate Geometric Free Air Area m²
Based upon open actuator stroke lengths 300mm and 550mm

Length L mm*	Width W mm**						
	600	700	800	900	1000	1100	1200
600	0.28	0.31	0.34	0.37	0.40	0.43	0.46
	0.50	0.56	0.61	0.67	0.72	0.78	0.83
700	0.31	0.34	0.37	0.40	0.43	0.46	0.49
	0.56	0.62	0.67	0.73	0.78	0.84	0.89
800	0.34	0.37	0.40	0.43	0.46	0.49	0.52
	0.61	0.67	0.72	0.78	0.83	0.89	0.94
900	0.37	0.40	0.43	0.46	0.49	0.52	0.55
	0.67	0.73	0.78	0.84	0.89	0.95	1.00
1000	0.40	0.43	0.46	0.49	0.52	0.55	0.58
	0.72	0.78	0.83	0.89	0.94	1.00	1.05
1100	0.43	0.46	0.49	0.52	0.55	0.58	0.61
	0.78	0.84	0.89	0.95	1.00	1.06	1.11
1200	0.46	0.49	0.52	0.55	0.58	0.61	0.64
	0.83	0.89	0.94	1.00	1.05	1.11	1.16
1500	0.55	0.58	0.61	0.64	0.67	0.70	0.73
	1.00	1.06	1.11	1.17	1.22	1.28	1.33
1800	0.64	0.67	0.70	0.73	0.76	0.79	0.82
	1.16	1.22	1.27	1.33	1.38	1.44	1.49
2000	0.70	0.73	0.76	0.79	0.82	0.85	0.88
	1.27	1.33	1.38	1.44	1.49	1.55	1.60
2400	0.82	0.85	0.88				
	1.49	1.55	1.60				

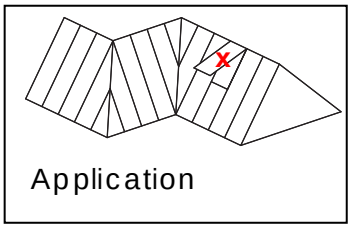
* Dimension L mm = overall fixed frame length – see drawings on page 91.
**Dimension W mm = overall fixed frame width – see drawings on pages 92.
Side hung vents are restricted to 1.20m² (Width x Length) with a maximum overall fixed frame length of 1800mm.
IF THE SIZE REQUIRED IS OUTSIDE THE BOUNDRIES OF THE ABOVE MATRIX PLEASE CONTACT OUR SALES OFFICE.
Please note : Whilst we are pleased to assist, the above example is given for guidance only. Responsibility remains with Specifiers to exercise all reasonable care ensuring our products are suitable for their requirements and correctly specified.

GlazaTherm Drawings and CAD Code Index

GlazaTherm – suitable for 24 – 28mm Double Glazed Units or 25mm polycarbonate

GlazaTherm ordering information

Top hung roof ventilator

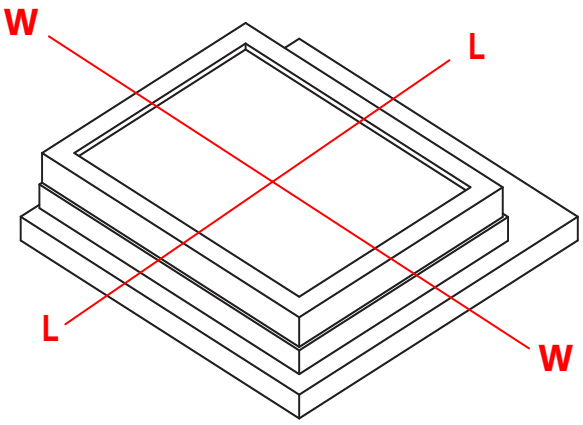


When ordering GlazaTherm to fit other manufacturers glazing bars or sloped 4-edge support systems, please specify fixed frame width and length. See notes below.

- GlazaTherm inserts between most patent glazing bars, sloped curtain walling and conservatory roof systems currently available.
- Suitable for single glazing, sealed double glazed units and Polycarbonate sheeting.
- Standard size 610mm x 915mm. Please contact our Sales Office for details of non-standard sizes.
- Manufactured from extruded aluminium alloy 6063-T6 sections supplied mill finish as standard and thermally broken with polyamides extrusions.
- Polyester powder paint finishes available in a wide range of colours.
- Various factory-fitted opening mechanisms, including pole, cord, thermostatic, electric and smoke actuators.
- Complies with BS5516 when used within manufacturers recommendations.

Dimensions required when ordering please state:

0/A Fixed Frame Length (Dimension L - refer drawings on page 91)
0/A Fixed Frame Width (Dimension W - refer drawings on page 92)

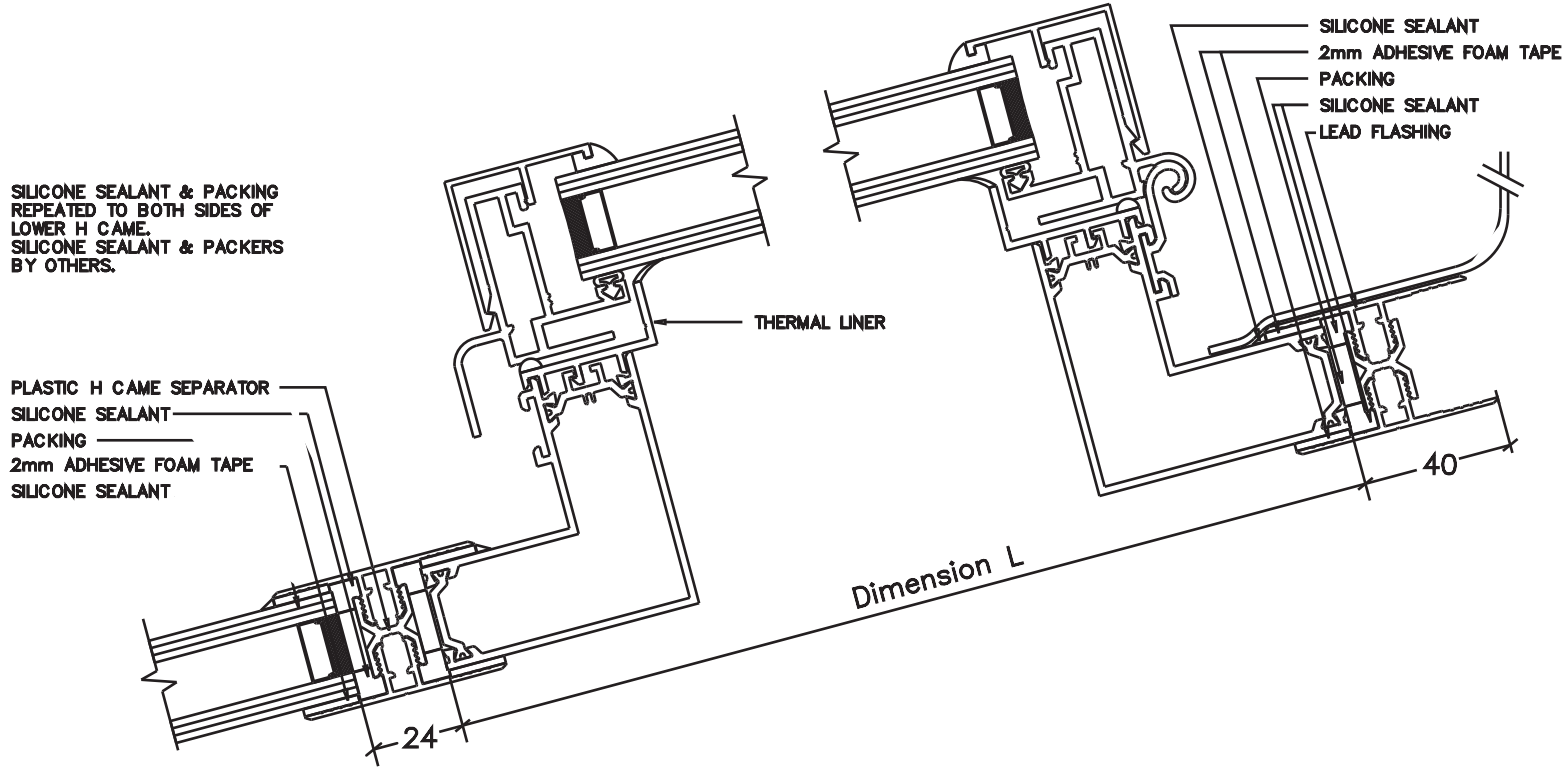


Sectional views

L-L = 0/A Fixed Frame Length - Dimension L
W-W = 0/A Fixed Frame Width - Dimension W

Top and bottom detail two edge support Patent Glazing

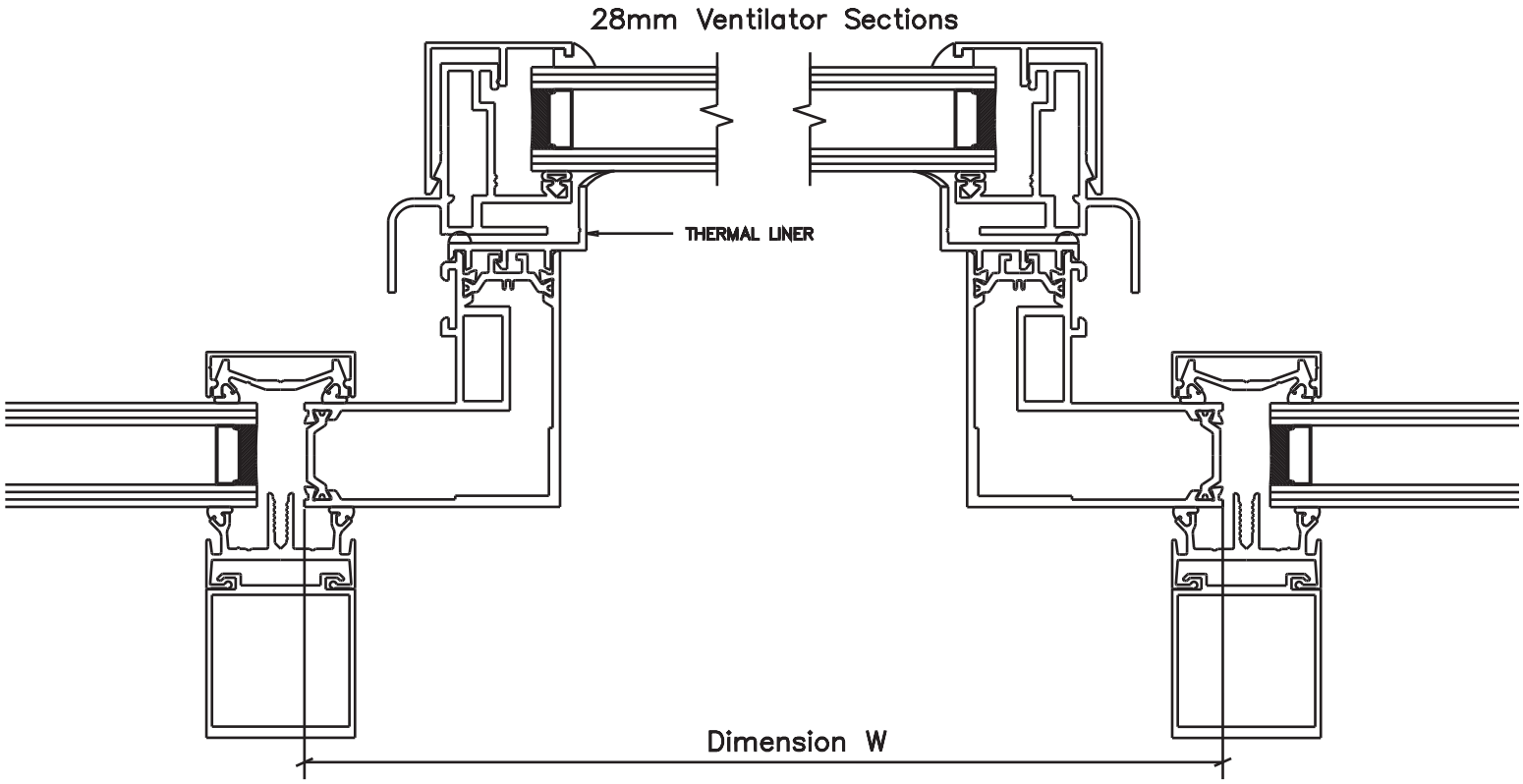
CAD Code GLAZ1PG



Scale of view 1: 2

Side rail into Patent Glazing bar or sloping curtain walling

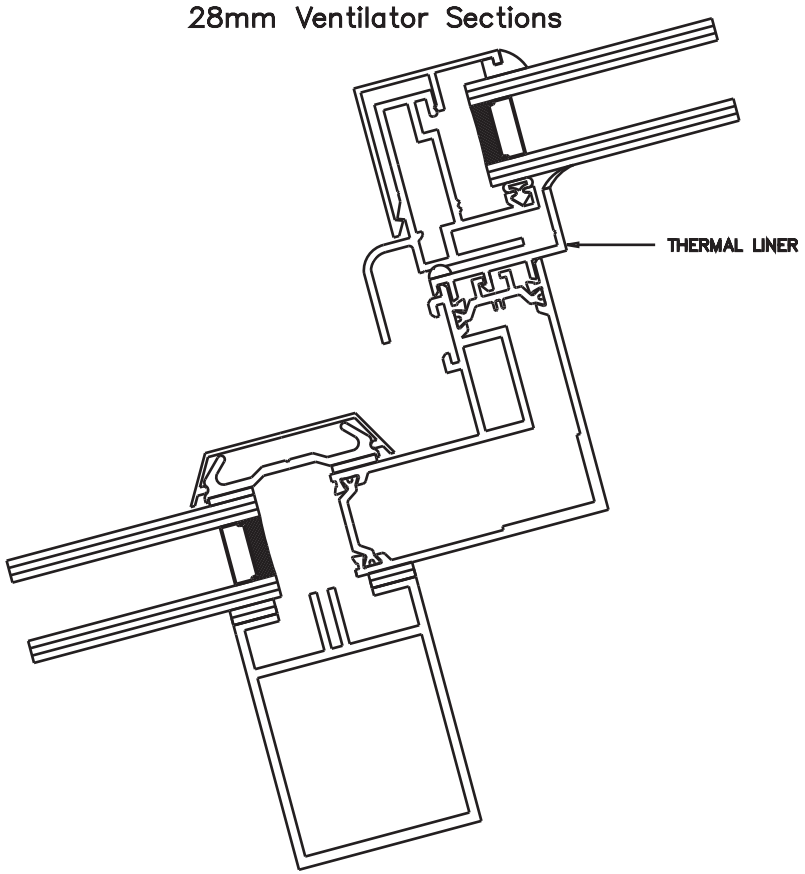
CAD Code GLAZ2PGCW



Scale of view 1: 2

Bottom detail into typical curtain wall transom

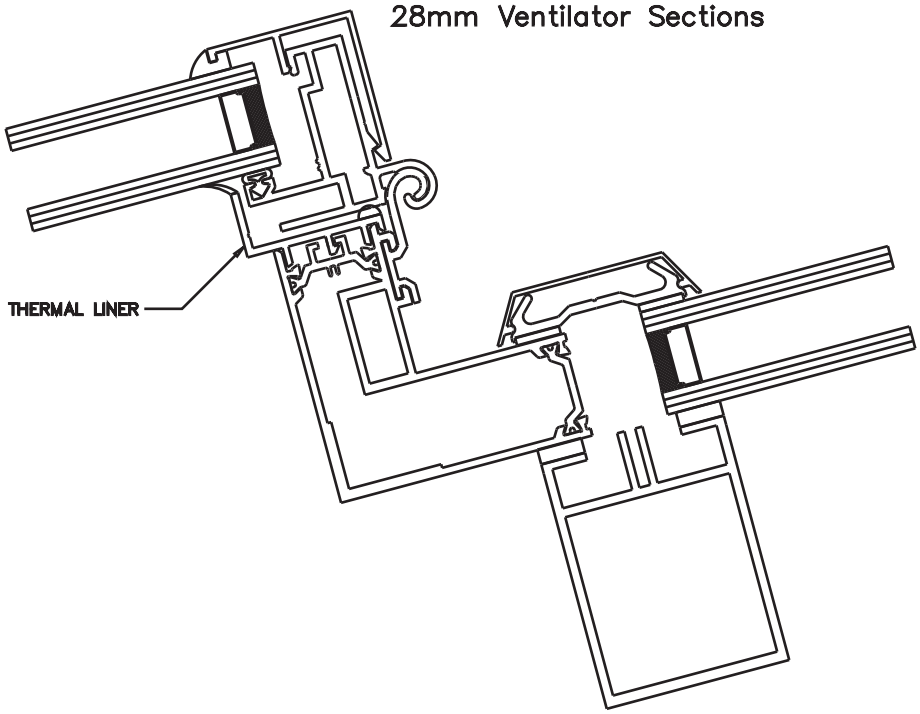
CAD Code GLAZ3CW



Scale of view 1: 2

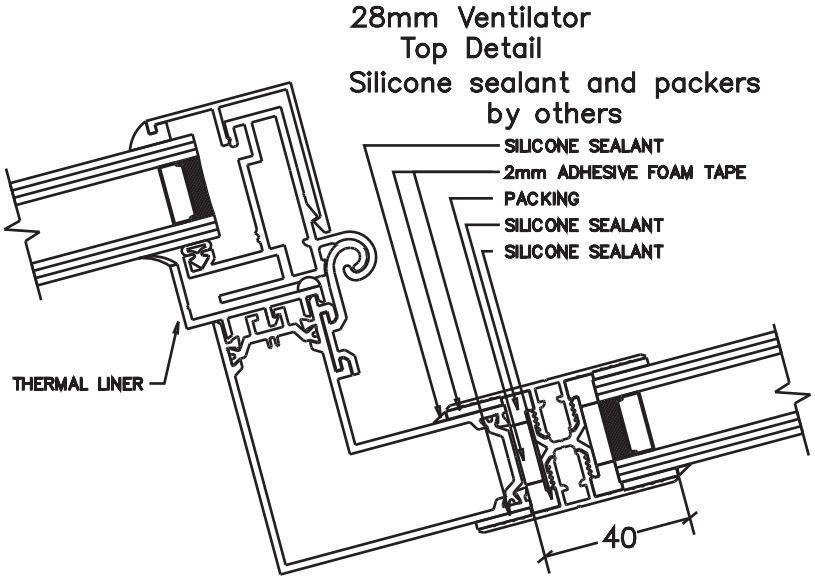
Head detail into typical curtain wall transom

CAD Code GLAZ4CW



Vent detail with glass above

CAD Code GLAZ5PG



Research & Development

Lonsdale has made a very significant investment in research and development to bring you the products set out in this publication. Lonsdale's intention is to continue to invest to stay at the fore front of its Industry and bring its customers products with unrivalled technological advancements and standards. We reserve the right to make changes without prior notification to achieve these aims.

Lonsdale will attack any Infringement of its copyright in order that both its customers and the Company may obtain the full benefits of its endeavours. Any unauthorised copying or reproduction of the plans and ideas whose copyright belongs to Lonsdale in this brochure will be met by legal action from the Company's solicitors Messrs. H. Montlake & Co.