

AMS MU800 SG Curtain Wall system

MU800SG, toggle glazed curtain walling system offers unique architectural design features combined with market leading performance. The system is propriety based and is suitable for both low & high rise applications. MU800SG offers an internal 55mm sight line and outside 21mm sightline. It comes in a suite of mullion / transom combinations which range from 96mm up to 271mm in depth. Our range of glazing seating profiles allows the system to accept units from 32 to 54mm in depth. The MU800 SG is based on our mullion drained curtain wall system. The glass units are securely retained into position, on all 4 sides, with purposely designed toggle plates which slot into the channel in the glass unit.

MU800 SG has an external 21mm sightline which contains a flush finish silicone joint. The system has the facility to incorporate toggled sash inserts which give a smooth flush finish between inserts and glass units. The system also has the facility to accept toggled insulated panels with the use of our special toggle profile for panels.

Thermal Performance

AMS MU800SG curtain walling is designed to offer the specifier excellent U-frame and U-curtain wall values. Building thermal performance requirements are easily achieved with the use of the AMS MU800SG curtain wall system. Thermal performance of curtain walls to be calculated in accordance with BS EN ISO 12631:2012.

Scope

This specification defines materials, fabrication, paint finishes, and size limitations for curtain walling.

Materials

Aluminium profiles are extruded from aluminium alloy 6063 T6 complying with BS EN 12020-2:2008 and BS EN 755: 1 – 9.

Paint Finishes

Polyester Powder Coatings

Aluminium profiles are polyester powder coated to BS EN 12206-1:2004. AMS offers in house painting with the following Qualicoat approved paint suppliers – Valspar / Syntha Pulvin, AkzNobel Interpon, Axalta

Decoral

Aluminium profiles can be polyester powder coated with a woodgrain effect paint finish to BS EN 12206-1:2004. Woodgrain finishes include,

Mahogany, Golden oak, Dark oak, Natural oak, Winchester Oak, Teak, Raw teak, Teak softwood, Chestnut, Oregon, Natural Oregon, Yellow Oregon, Oregon pine, Knotty pine, Natural maple, Cinnamon, Worn ash, Rosewood,

Anodised

Aluminium profiles can be anodised to BS EN ISO 7599:2010 or BS 3987:1991.

Fabrication

The AMS MU800SG curtain walling system is designed as a stick system and frame members such as mullions and transoms shall be fabricated in accordance with AMS technical literature and transported to site as prepared components. The stick grid system shall be assembled on the proposed facade area as per fabrication shop drawings and architects instructions.

Mullions shall be square cut and can be joined with specially designed jointing sleeves. Mullions shall run the full height of the façade with transoms spanning in between. Transoms shall be notched and lapped over the mullion, a special sealing gaskets is to be positioned between the mullion and transoms for improved weather and air tightness. Transoms to be screw fixed into position with No.8 x 19 tamper proof screws.

Fixing points should be advised by a structural engineer and relevant fixing brackets approved so that all loads are transferred back to the main building structure. Low modulus silicone shall be used throughout for weathering joints as recommended by the silicone manufacturer.

Glazing

Glass shall be set against extruded gaskets internally which are fitted into gasket grooves in the mullions and transoms. Glass loading plates to be fitted to the screw port of the transom, each plate is to be in 150mm approximately from each end. Suitable PVC/EPDM glass support pieces are to be fitted between the glass and the loading plate. Material and size of the glass support piece should be as per the glass manufacturer's recommendations. Glass is held in position with aluminium retention toggles fitted at 100mm in from each corner and at a max of 300mm C/C thereafter. The outer pane of glass is to have at least 60% support on the glass packer and support plate. All Gaskets are EPDM and manufactured to BS 4255 and tested to BS EN 12365-4:2003. MU800 SG can accommodate glazing thickness of 28mm up to 54mm in depth. Glazing shall be in accordance with BS 6262 and Building Regulations Document N (Wales) and K (England).

Installation

AMS offer detailed installation instructions on all systems and these should be followed as per AMS's technical department's recommendations

Performance

Tested to CWCT standard for systemised building envelopes, test sequence B .

Air Classification – Class 4: 600 Pa.

Water Tightness – Class R7: 600 Pa.

Wind Resistance – Class EA2400.

Water tightness dynamic - Pass.

Water tightness hose test - Pass.

Wind resistance safety – Class - 3600Pa.

Impact resistance - Class E5.

Structure

Section performance requirements must be calculated from site conditions and all loading requirements. All structural profiles shall be designed so as the maximum deflection of any member shall not exceed the limits as set out by the CWCT standard for systemised building envelopes, Part 3. Further advice on deflection limitations should be sought from the glass supplier.

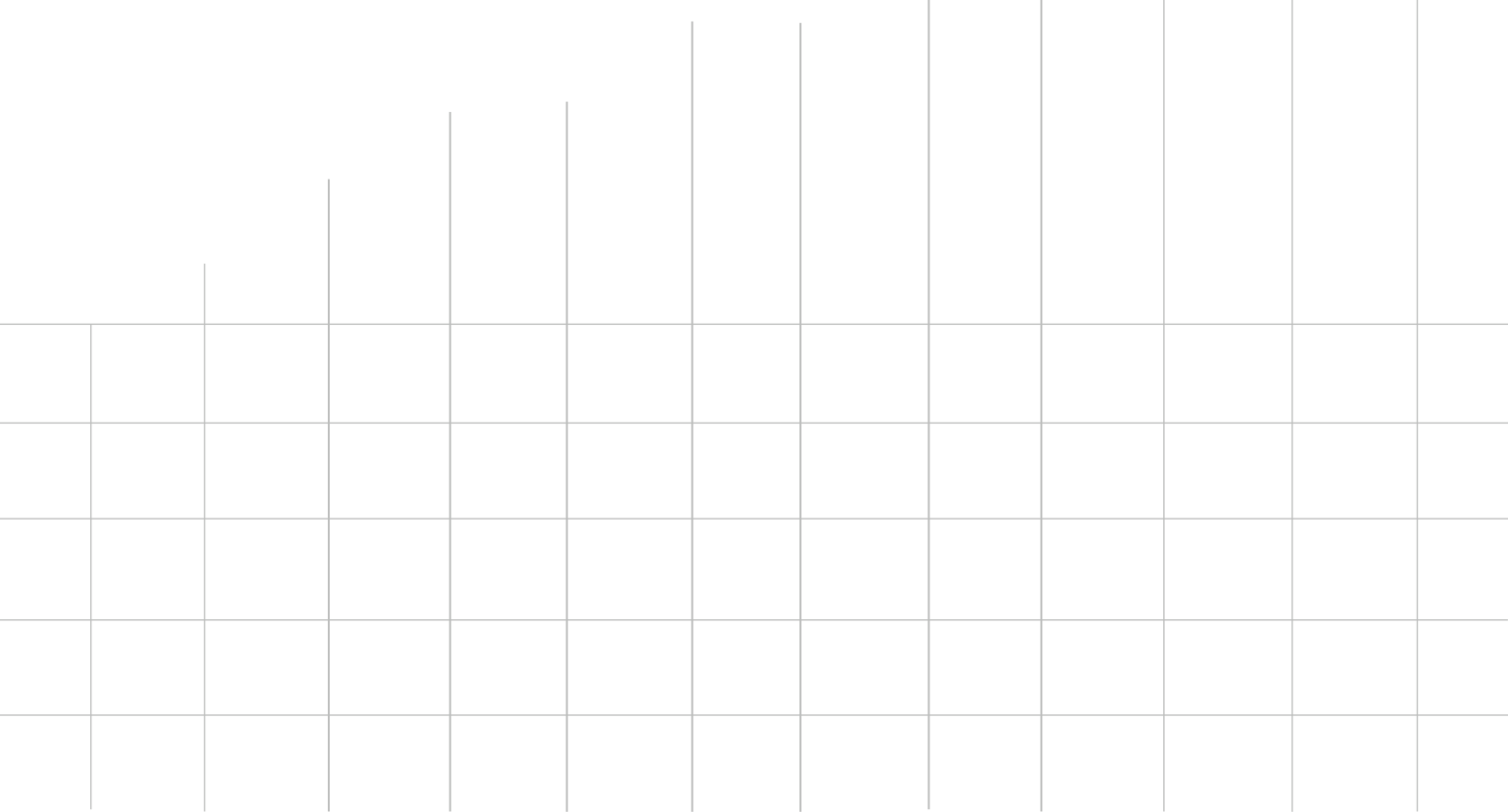
CWCT Guidelines for deflection:

Length	Allowable deflection
$H \leq 3000$	$\Delta \leq H/200$
$3000 < H < 7500$	$\Delta \leq 5 + H/300$
$7500 \leq H$	$\Delta \leq H/250$

The recommended torque setting for the toggle plate screw is to be confirmed and agreed with the glass manufacturer. Where glass weights are in excess of 120Kg's and/or the transom spans more than 2.5m, transom support blocks are to be fitted to the mullion. Maximum allowable weight of glass unit with support block is 510kg's (With 3 no. 14 x 19mm S/S pan head screws & MU799 transom). For large units ensure the transom is within deflection limits. Standard glass support plates are supplied in 100mm cut pieces, for unit above 300 kg's increase glass support plates to 150mm.

Insert opening vents and doors

Details and specification information for these insert products can be found in the window and door section of AMS's technical literature.



- 1.2.01 - 07-07-17 : Profile listing, Mullion/Transoms.
- 1.2.02 - 07-07-17 : Gaskets and accessories.
- 1.2.03 - 07-07-17 : Brackets.
- 1.2.04 - 07-07-17 : Ixx of Mullions sleeved.
- 1.2.05 - 07-07-17 : Brackets.
- 1.2.06 - 07-07-17 : Glazing options, mullions/transoms.
- 1.2.07 - 07-07-17 : Typical head/cill details.
- 1.2.08 - 07-07-17 : Typical fixing details.
- 1.2.09 - 07-07-17 : Door insert details.
- 1.2.10 - 07-07-17 : Typical jamb details.
- 1.2.11 - 07-07-17 : Typical door jamb details.
- 1.2.12 - 07-07-17 : corner details.
- 1.2.13 - 07-07-17 : Sash insert detail.

AMS Ltd. Wallingstown, Little Island, Co. Cork:

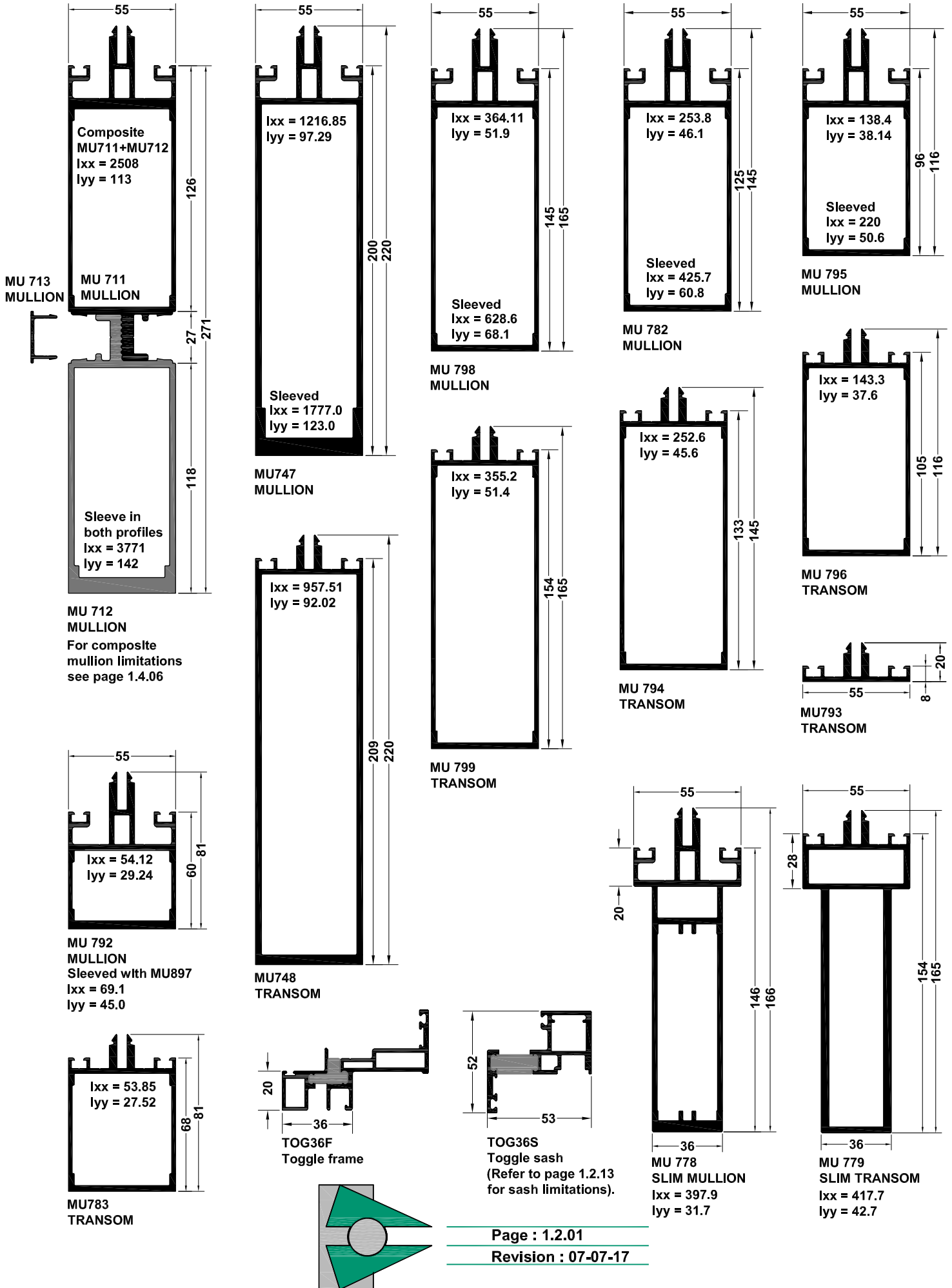
Tel: 021 4705100 **Fax:** 021 4705198, **E-mail:** pohara@ams.ie, **Web:** www.ams.ie



MU 800SG CURTAIN WALL SYSTEM

Mullions and transoms

Scale NTS



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gaskets and accessories

Scale NTS

G1550
Transom end
sealing gasket

CWG010
Transom
gasket

CWG014
Mullion
gasket

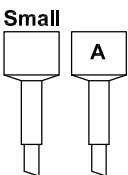
TOG02C1
7.2mm toggle

TOG05C1
7.2mm half
toggle

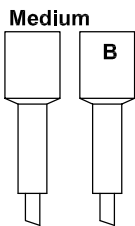
SC11
Toggle glazing
channel

CWA030
No. x 19
tamper proof
screw

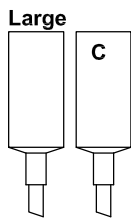
Heads for punch tool



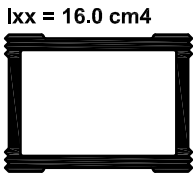
Transom drained
holes for cleats



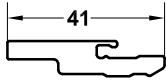
Mullion drained
holes for cleats



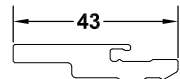
Mullion drained
holes for transom
fixing screws
(Oval head)



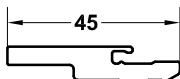
MU897
Mullion joint sleeve MU 792



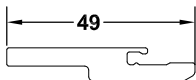
TOG06C1 - Grey
Glass support plate -
32mm glazing



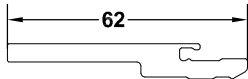
TOG08C1 - Brown
Glass support plate -
34mm glazing



TOG07C1 - Black
Glass support plate -
36mm glazing



TOG09C1 - Blue
Glass support plate -
40mm glazing



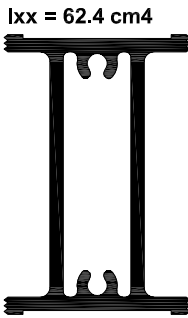
TOG10C1 - Green
Glass support plate -
54mm glazing



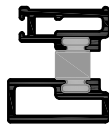
CWA 031
Drill bit to suit
transom screw



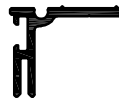
T114
Stepped
drill bit



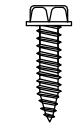
MU 830
Joint sleeve for
MU895/795



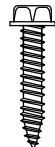
TOGCLS6
Closer section for
6mm glass inside
and out



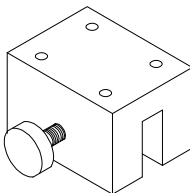
MU801
Membrane
adapter



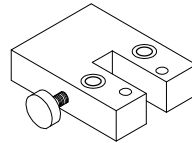
TOGS2
14x25mm
toggle screw



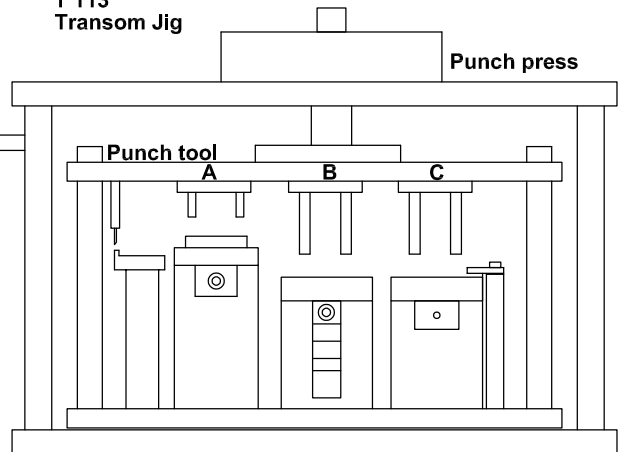
TOGS1
14x32mm
toggle screw



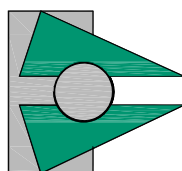
**Mullion Jig
T112**



T 113
Transom Jig



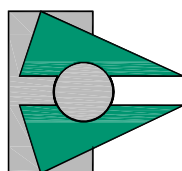
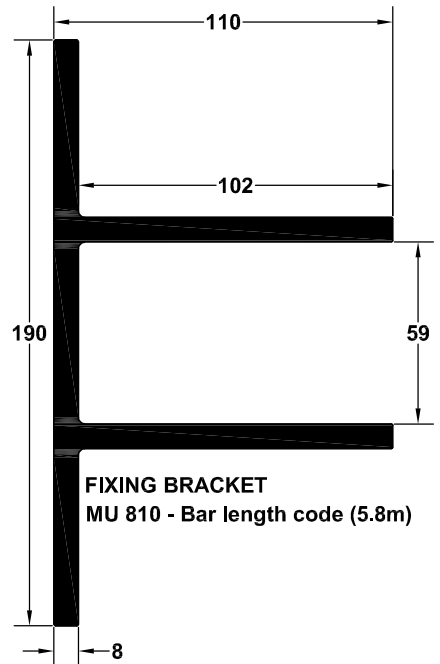
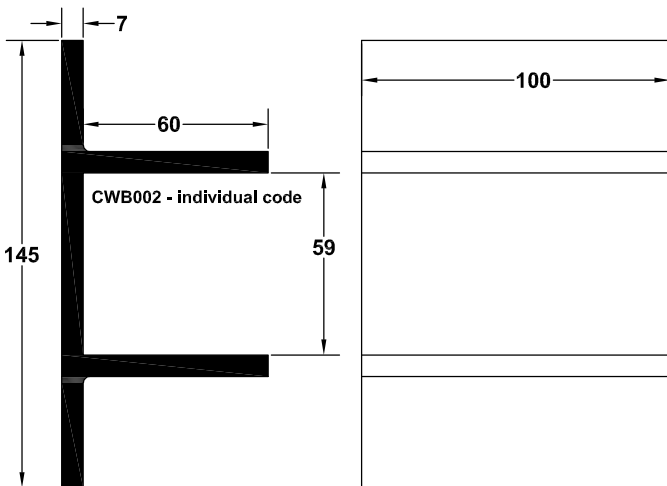
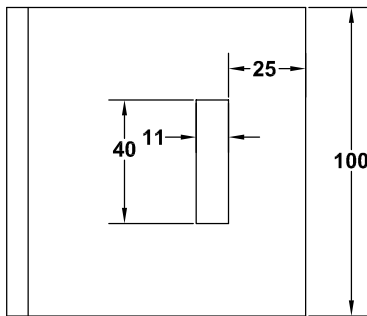
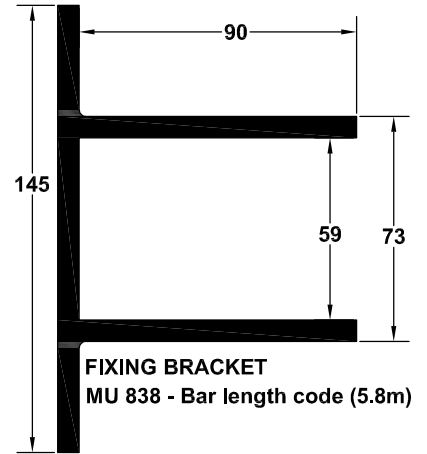
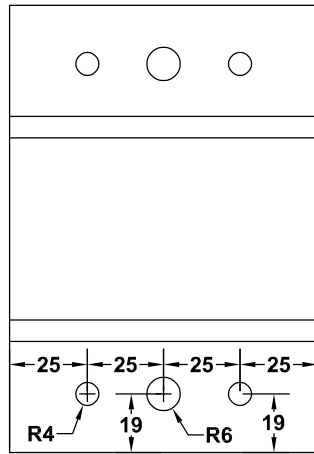
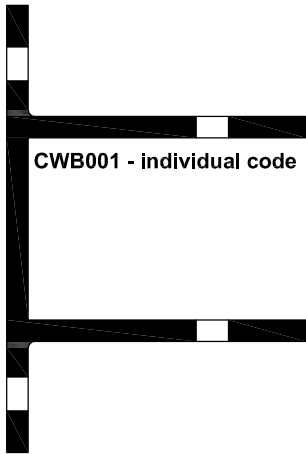
Punch press for curtain wall transoms



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Brackets

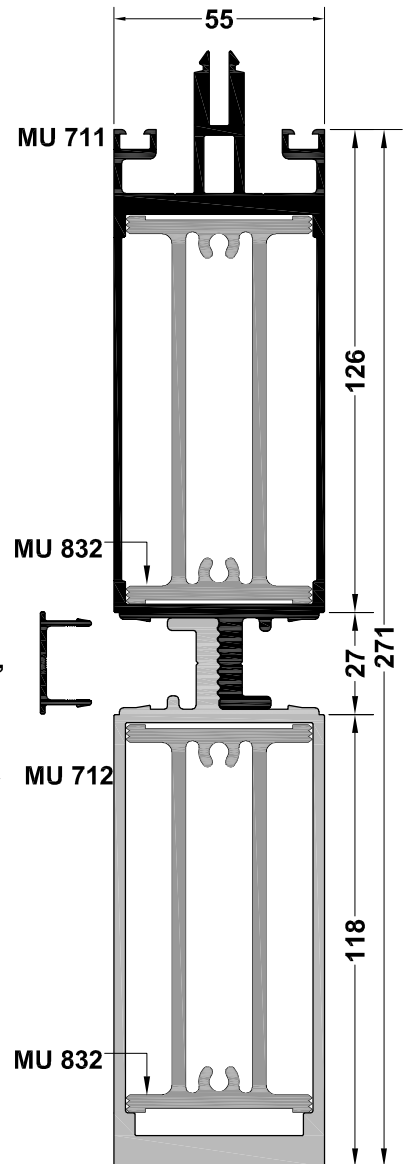
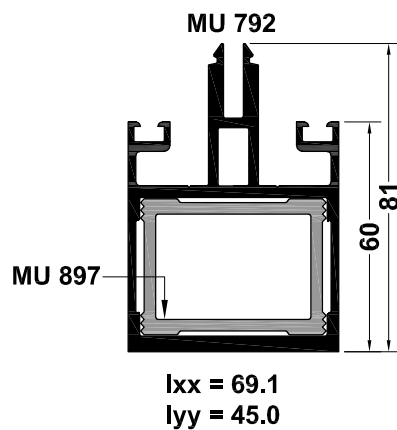
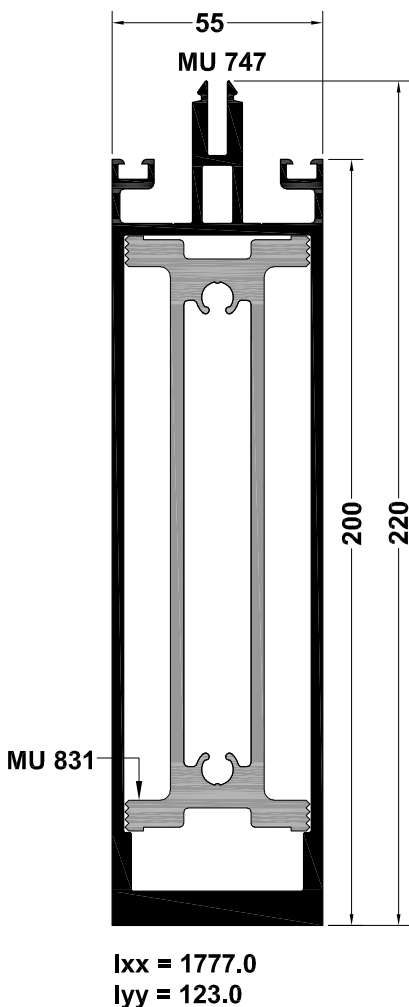
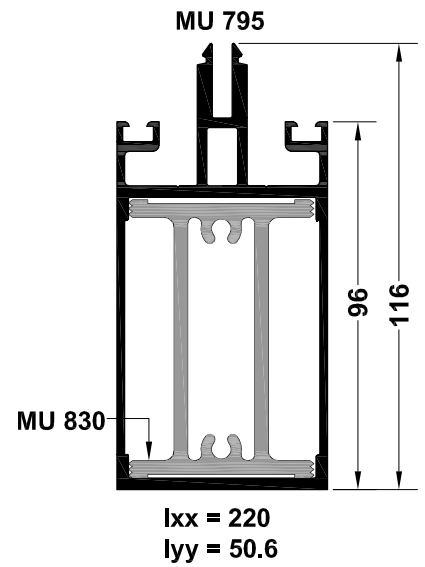
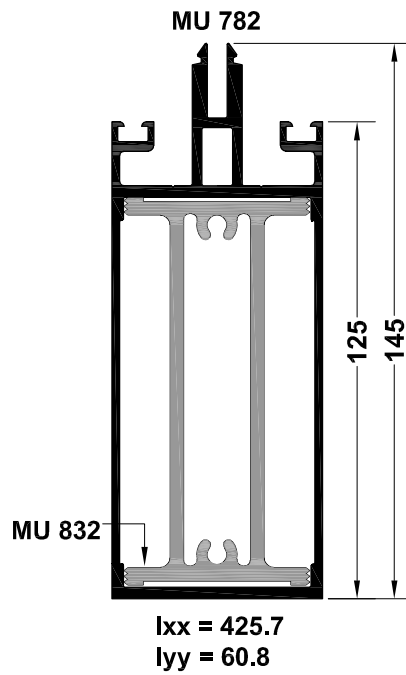
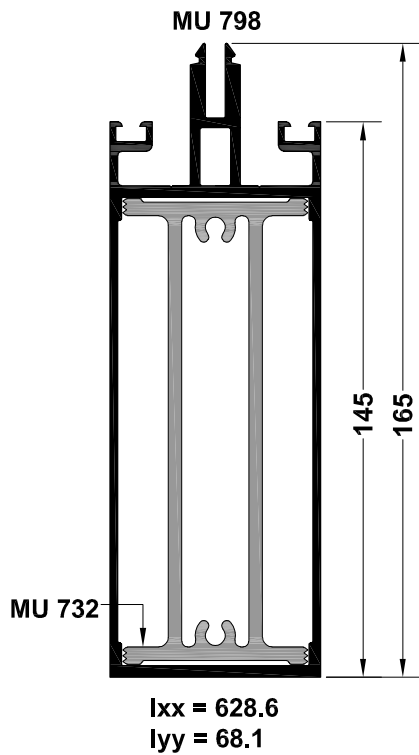
Scale NTS



MU 800SG CURTAIN WALL SYSTEM

Ixx values for mullions with sleeve

scale NTS

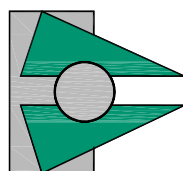


Composite mullion parameters are as follows:

Anything outside these parameters will require analysis by a certified structural engineer. For both options the mullion must be fully sleeved with MU 832 in both cavities, M10, socket head steel bolts to be fitted at 250mm C/C and torque to 35N-m. (Fixing brackets at the head and cill have not been considered and should also be signed off by a certified engineer)

Span 1:
Mullion single height span = 6.590m
Mullion Centres = 1.2m
Wind load = 1500 Pa.

Span 2:
Mullion single height span = 6.0m
Mullion Centres = 2.0m
Wind load = 1500 Pa.

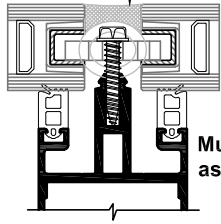


Sleeve in both profiles
Ixx = 3771
Iyy = 142

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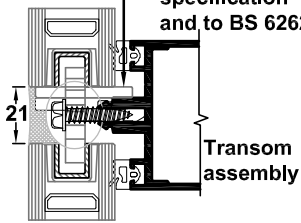
Profile assembly Scale NTS

Silicone joint to glass manufacturers instructions, min 5mm in depth, use Dow Corning 791 or similar approved.



Mullion assembly

Glass packer to glass suppliers specification and to BS 6262

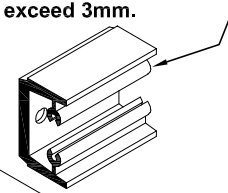


Transom assembly

Note: Support cleat to be used when double glazed unit exceeds 100 Kg's and or transoms spans more that 2.5m. (See dwg No. 1.4.04 for cleat codes), Max load for transom/cleat combination is 500 kg's. Ensure deflection on transom does not exceed 3mm.

Gasket, G1550 fitted between transom and mullion overlap

Transom fitted with 2 No. 8 x 19 tamper proof screws



Glass support plate in 150mm approx from each end of transom

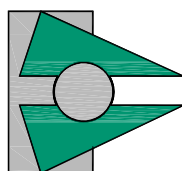
Note:
Guide for glass area & glazing support plates:
2 No. Standard 100mm support plates (both in 150mm approx from each end) - max area of glass = 3.3m²

4 No. Standard 100mm support plates, 2 side by side positioned in 150mm approx from each end - max area of glass = 6.6m². Glazing packer to be full width of support plates.

Glass packers:
Glazing packers to be fit for purpose, in accordance with the glass suppliers recommendations and also in accordance with BS 6262. At least 50% of the outer pane of glass to be supported by packers/support plates.

Toggles fitted in 100mm from each corner and at 250mm c/c thereafter. Contact glass supplier for further information and confirmation of toggle centres.

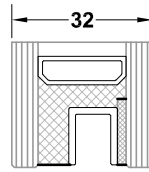
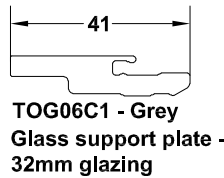
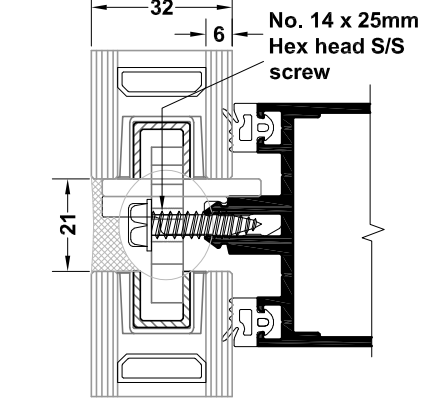
Foam backing rod to be fitted between toggles to ensure correct depth of sealant. Sealant depth to be at least 5mm



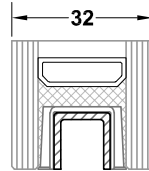
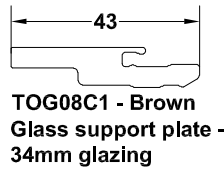
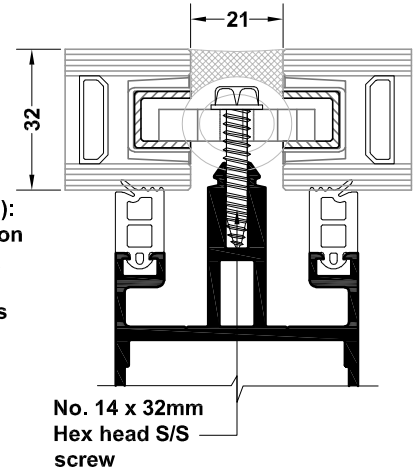
MU 800SG CURTAIN WALL SYSTEM

Glazing detail

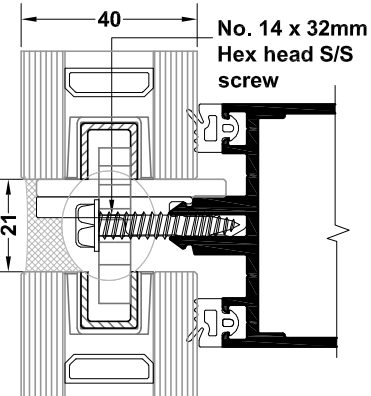
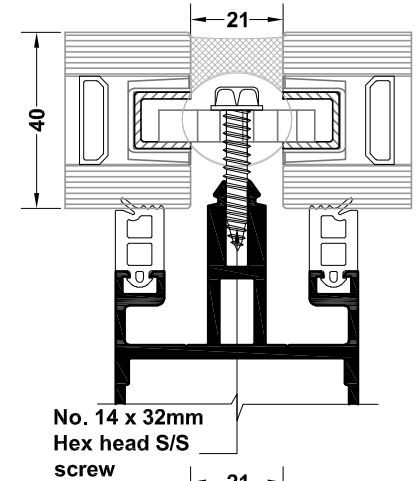
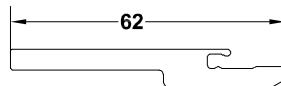
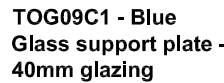
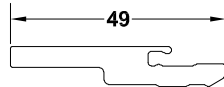
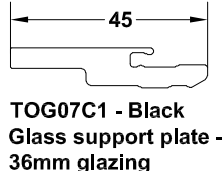
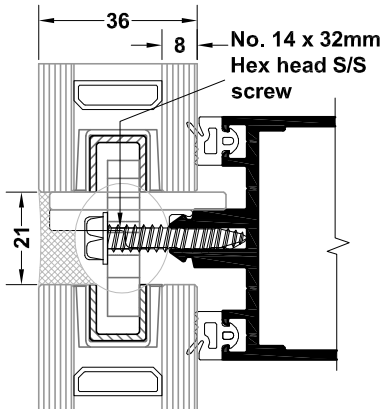
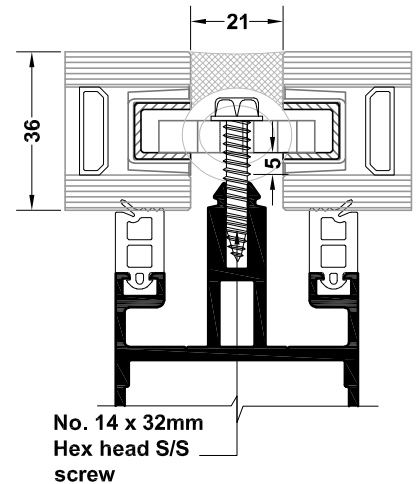
Scale NTS



AMS toggle channel (SC11):
When 6 and 8mm glass is on the inner pane use No.14 x 25mm Hex head screws.
When 10 and 11.5mm glass is on the inner pane use No.14 x 32mm hex head screws.



For other toggle channel details ensure there is sufficient engagement on the toggle screw.



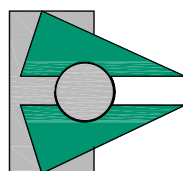
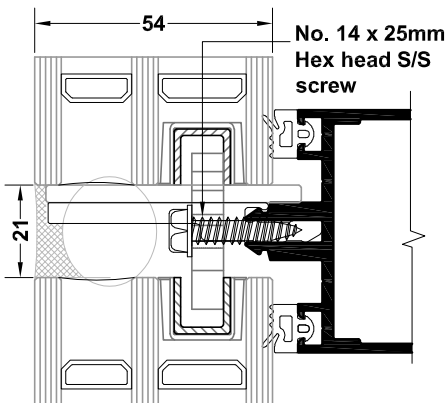
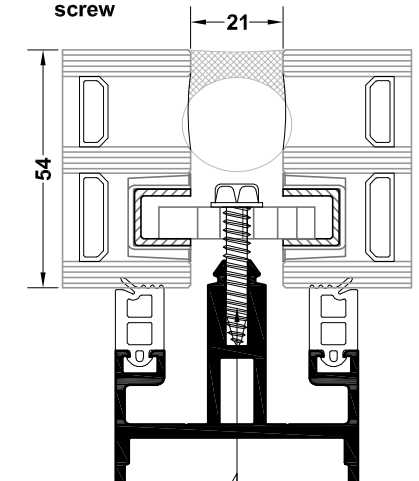
Notes:
Glass thickness:
Minimum glass thickness for AMS toggle glazed system to be 32mm.

Toggle Locations:
Toggles in 100mm from each corner and at max of 250mm C/C thereafter.

Guide for glass area & glazing support plates:
2 No. Standard 100mm support plates (both in 150mm approx from each end) - max area of glass = 3.3m²

4 No. Standard 100mm support plates, 2 side by side positioned and in 150mm approx from each end - max area of glass = 6.6m².

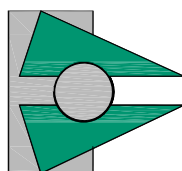
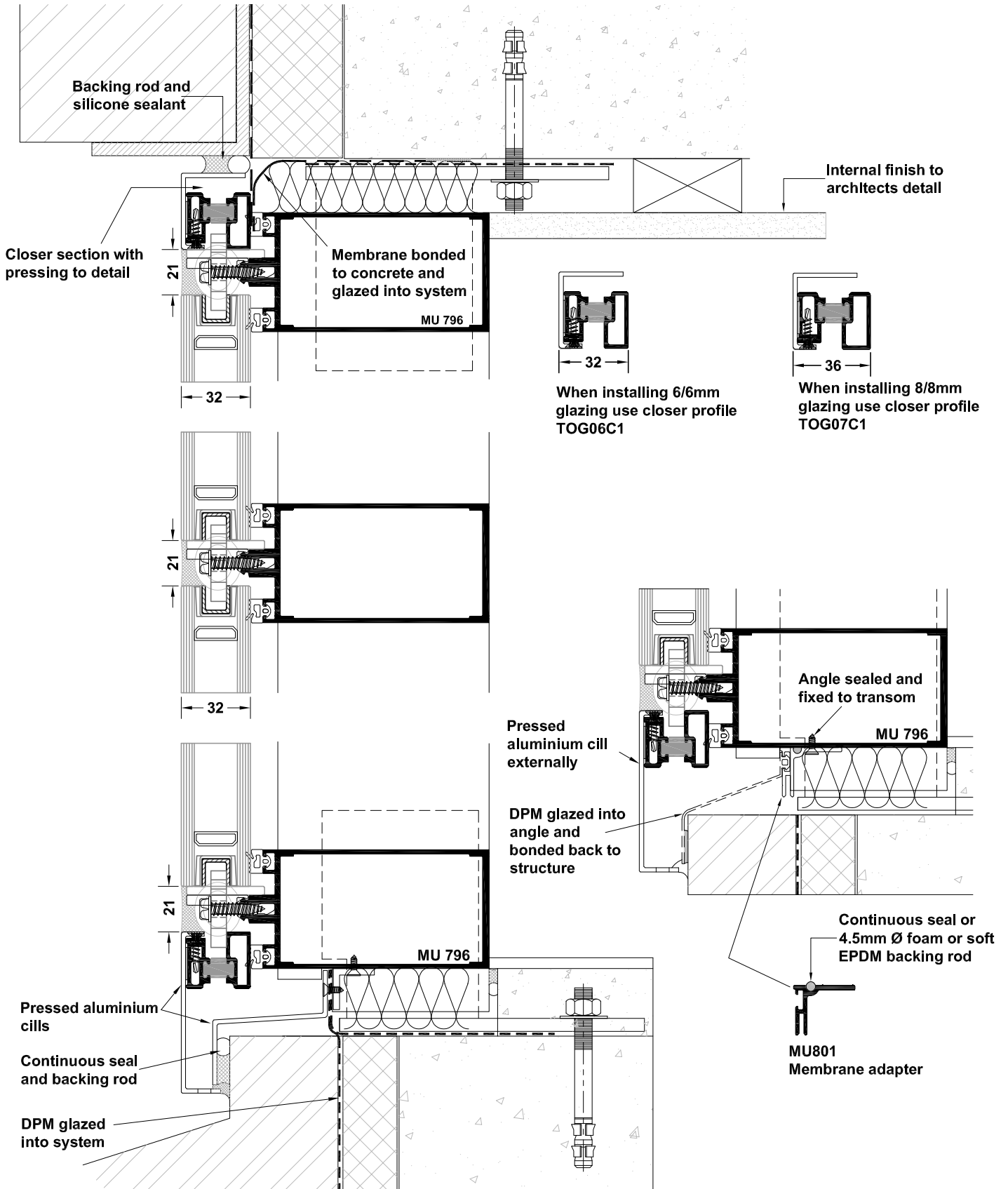
Glass packers:
Glazing packers to be fit for purpose, in accordance with the glass suppliers recommendations, and also in accordance with BS 6262. At least 50% of the outer pane of glass to be supported by packers/support plates. Correct torque on toggle screw to be agreed with glass manufacturer.



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Typical head/cill detail

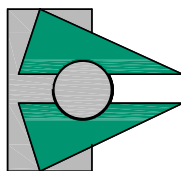
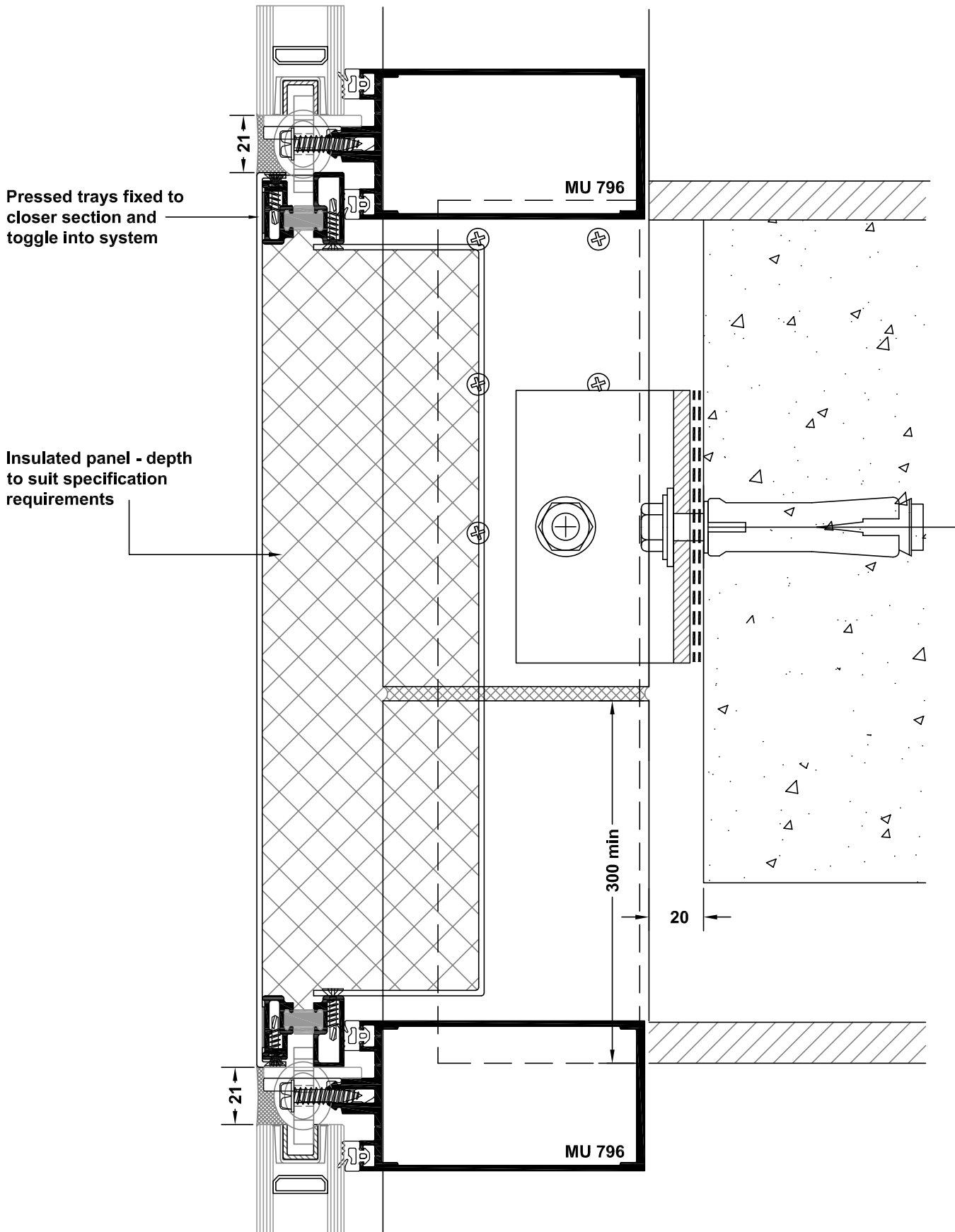
Scale NTS



MU 800SG CURTAIN WALL SYSTEM

Typical fixing detail

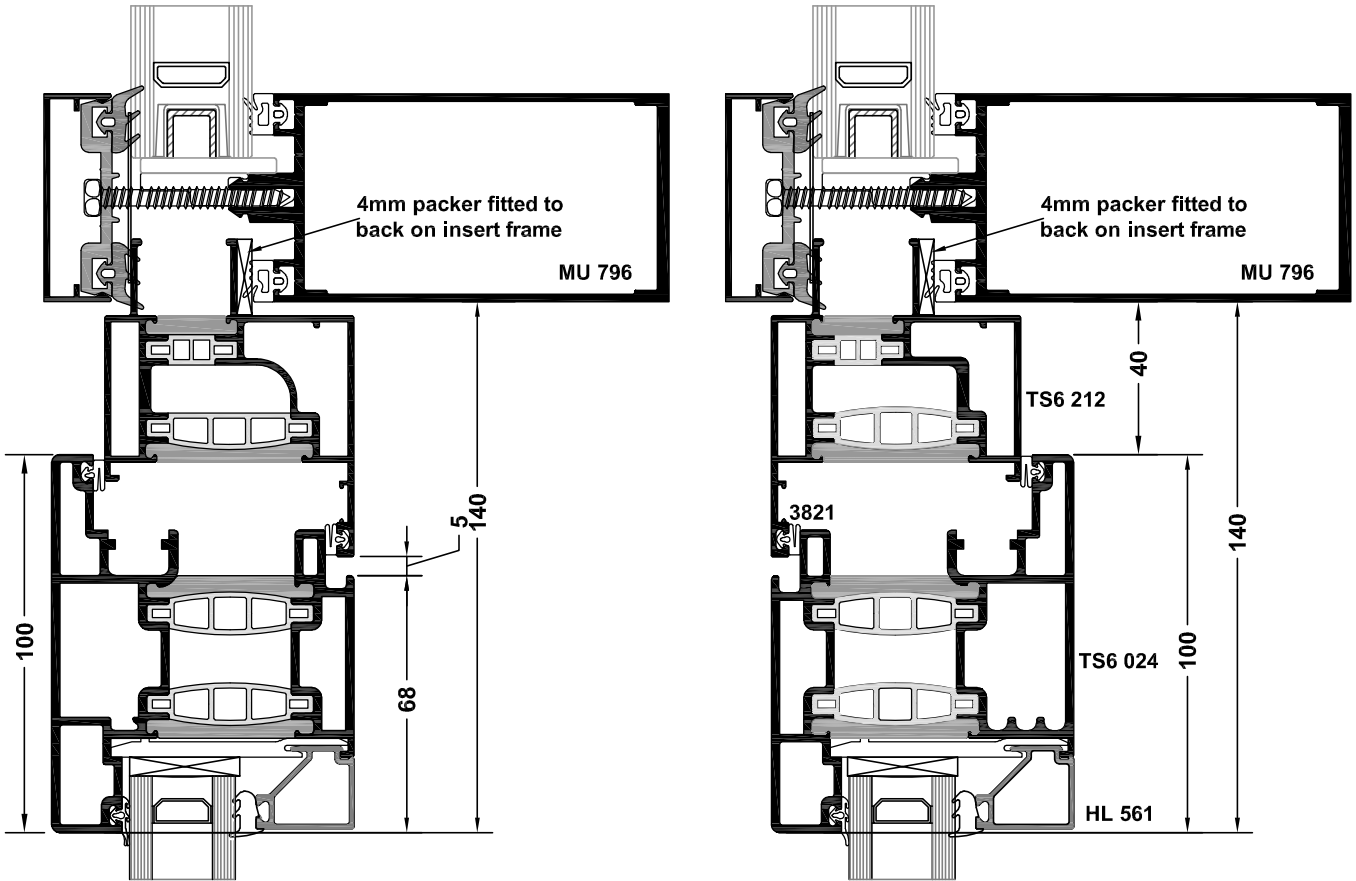
Scale 1:2



MU 800SG CURTAIN WALL SYSTEM

Door insert detail

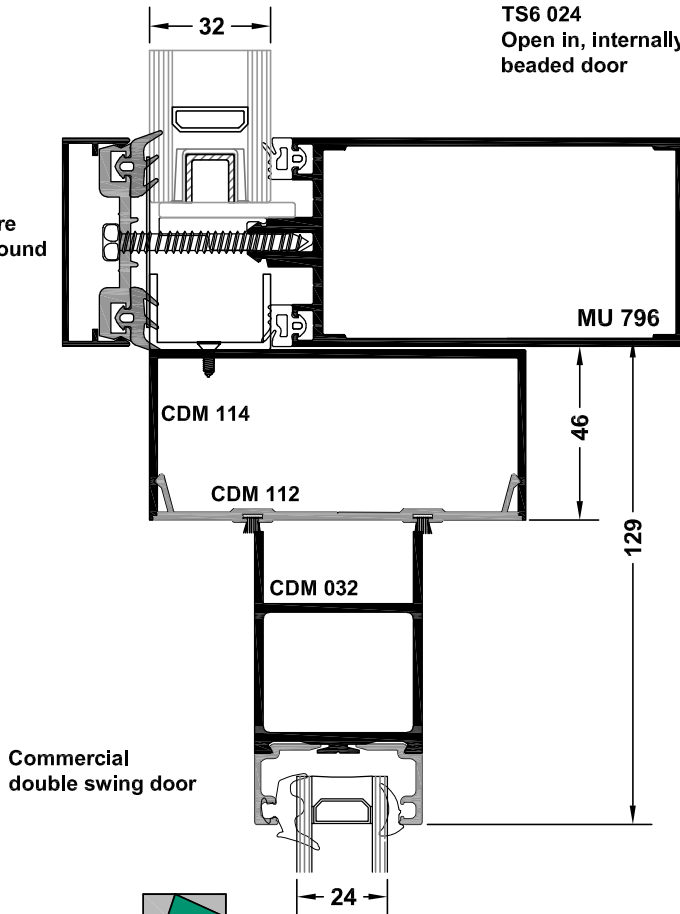
Scale 1:2



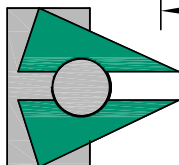
TS6 022
Open out, internally beaded door.

TS6 024
Open in, internally beaded door

Note:
For door insert, use pressure plate, butyl tape and cap around the perimeter of the door



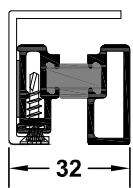
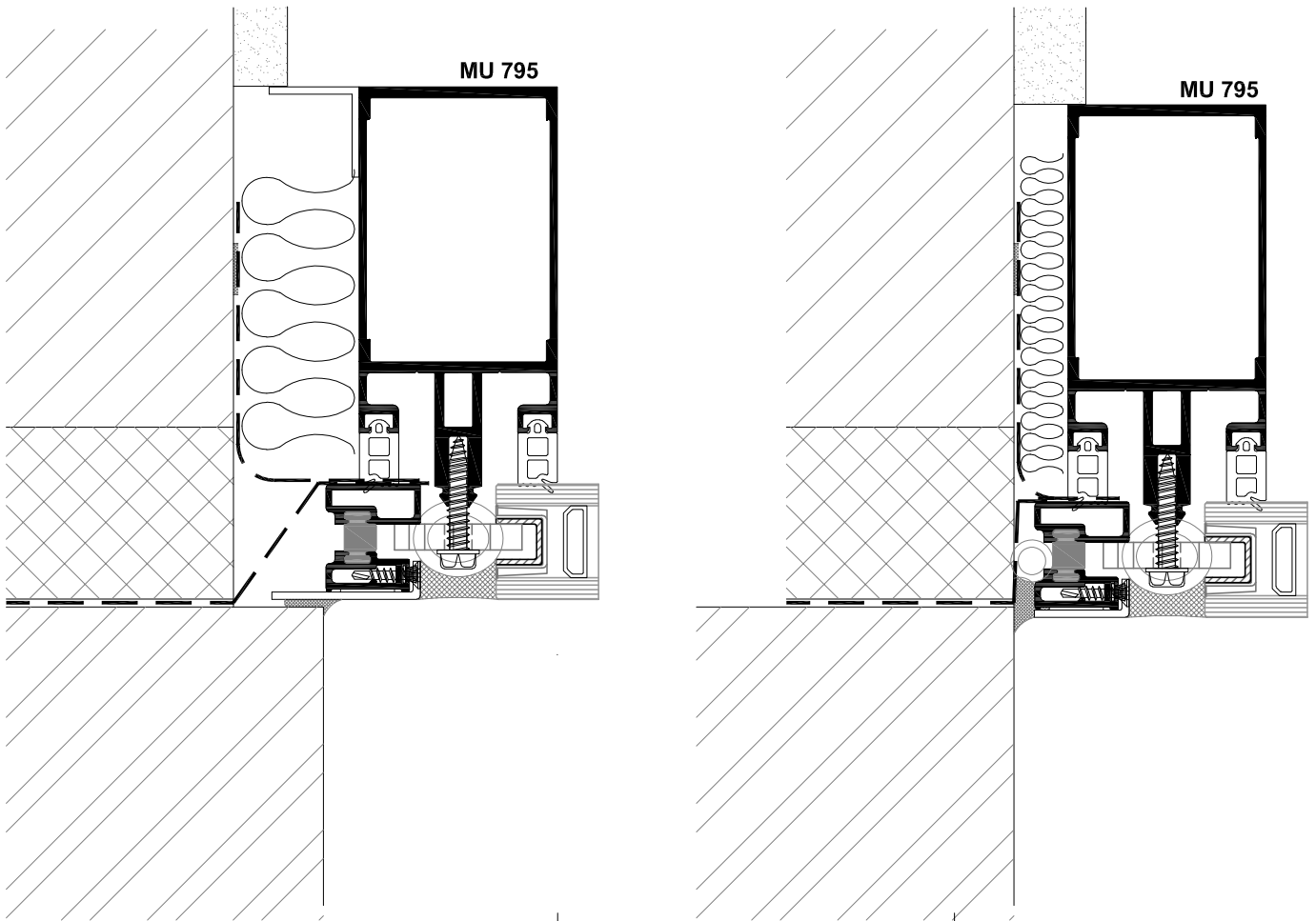
Commercial double swing door



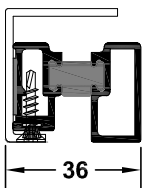
MU 800SG CURTAIN WALL SYSTEM

Typical jamb/fixing detail

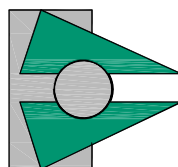
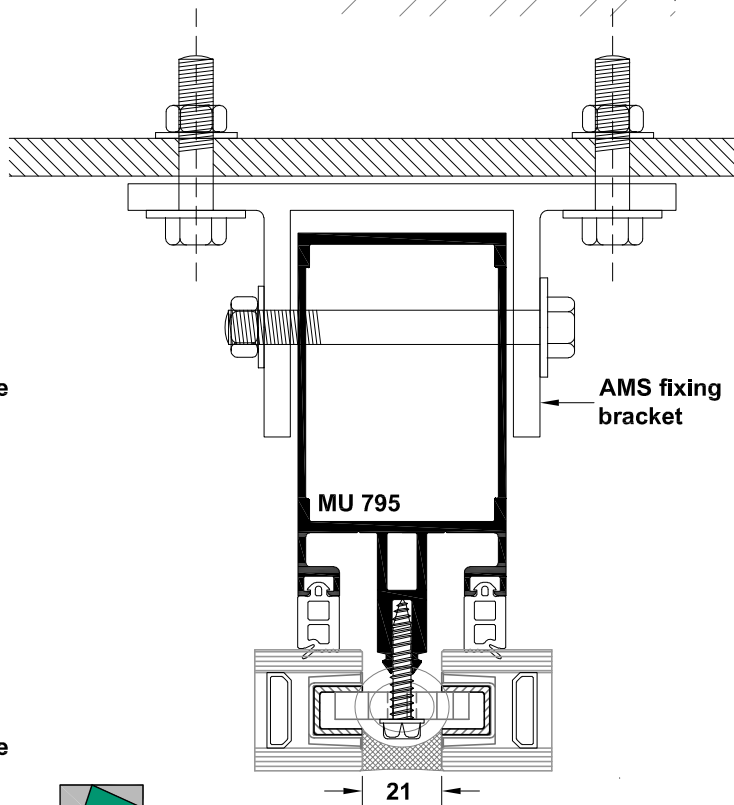
Scale 1:2



When installing 6/6mm
glazing use closer profile
TOG06C1



When installing 8/8mm
glazing use closer profile
TOG07C1

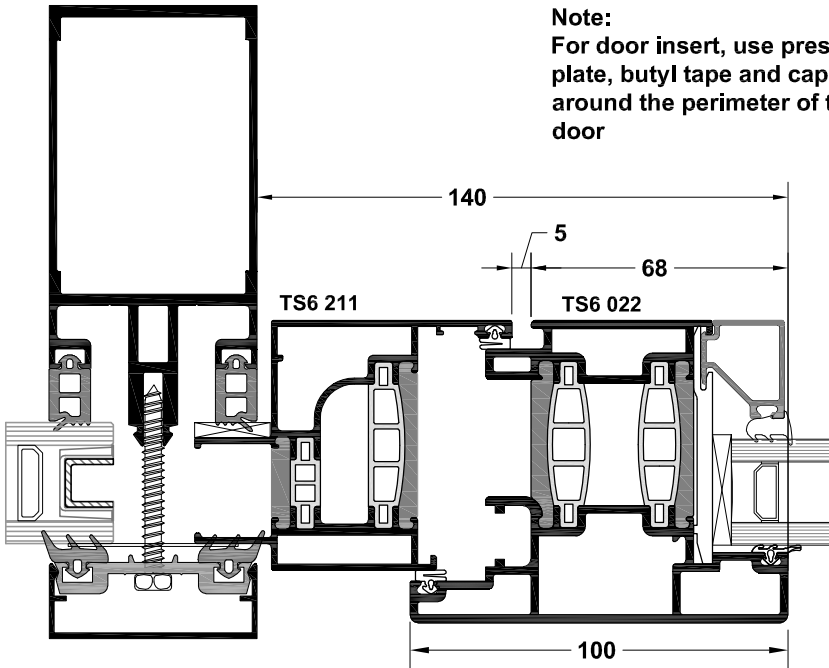


MU 800SG CURTAIN WALL SYSTEM

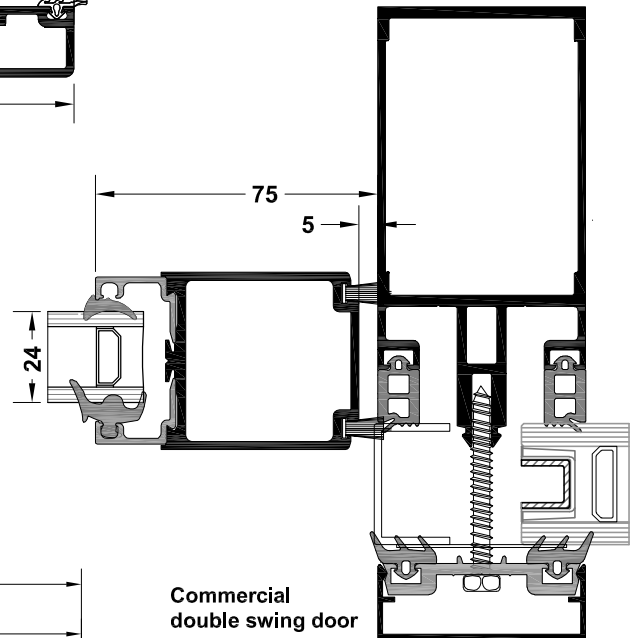
Typical door details

Scale 1:2

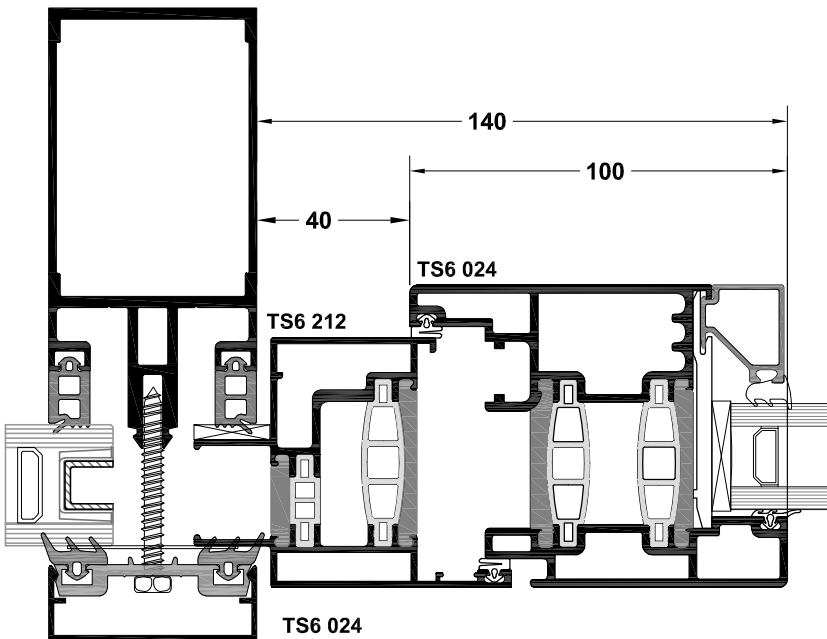
Note:
For door insert, use pressure
plate, butyl tape and cap
around the perimeter of the
door



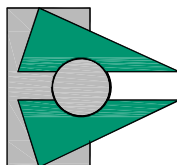
TS6 022
Open out, internally
beaded door.



Commercial
double swing door



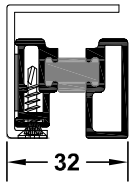
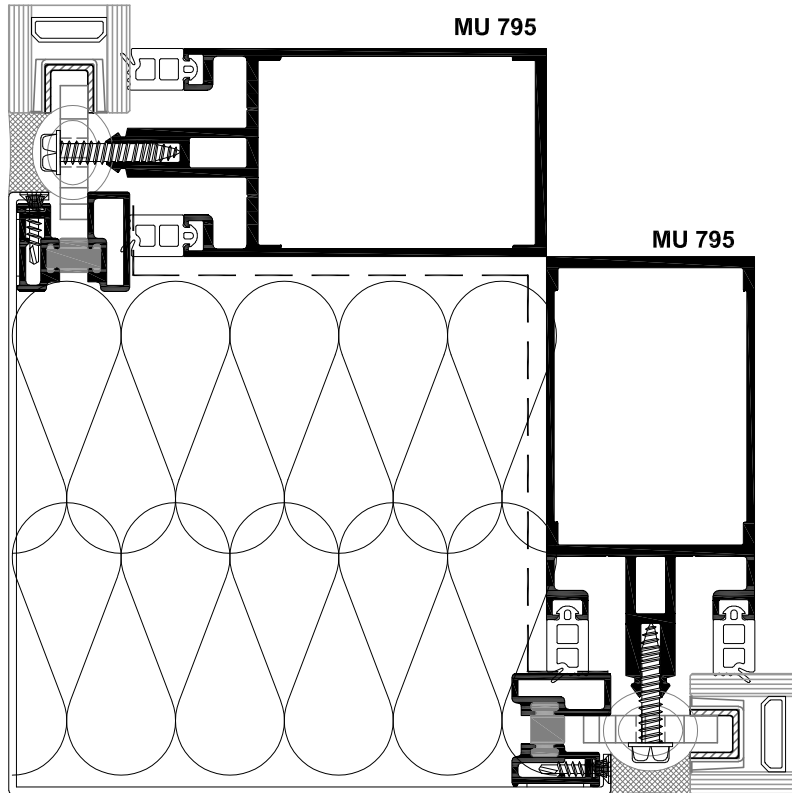
TS6 024
Open in, internally
beaded door



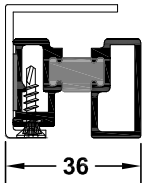
MU 800SG CURTAIN WALL SYSTEM

Corner detail

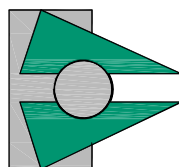
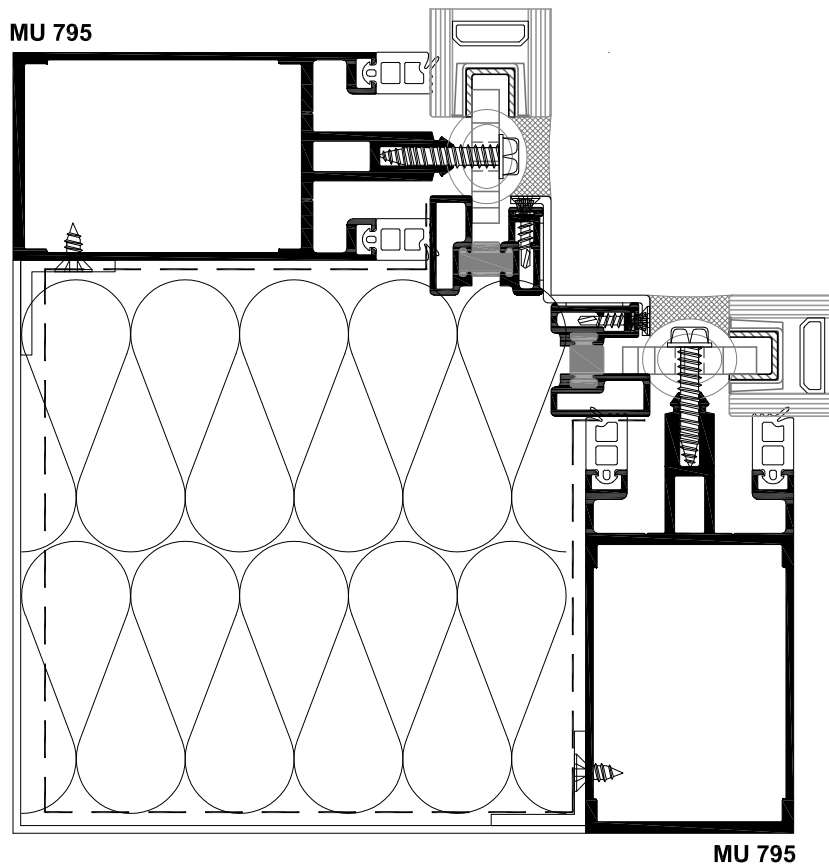
Scale 1:2



When installing 6/6mm
glazing use closer profile
TOG06C1



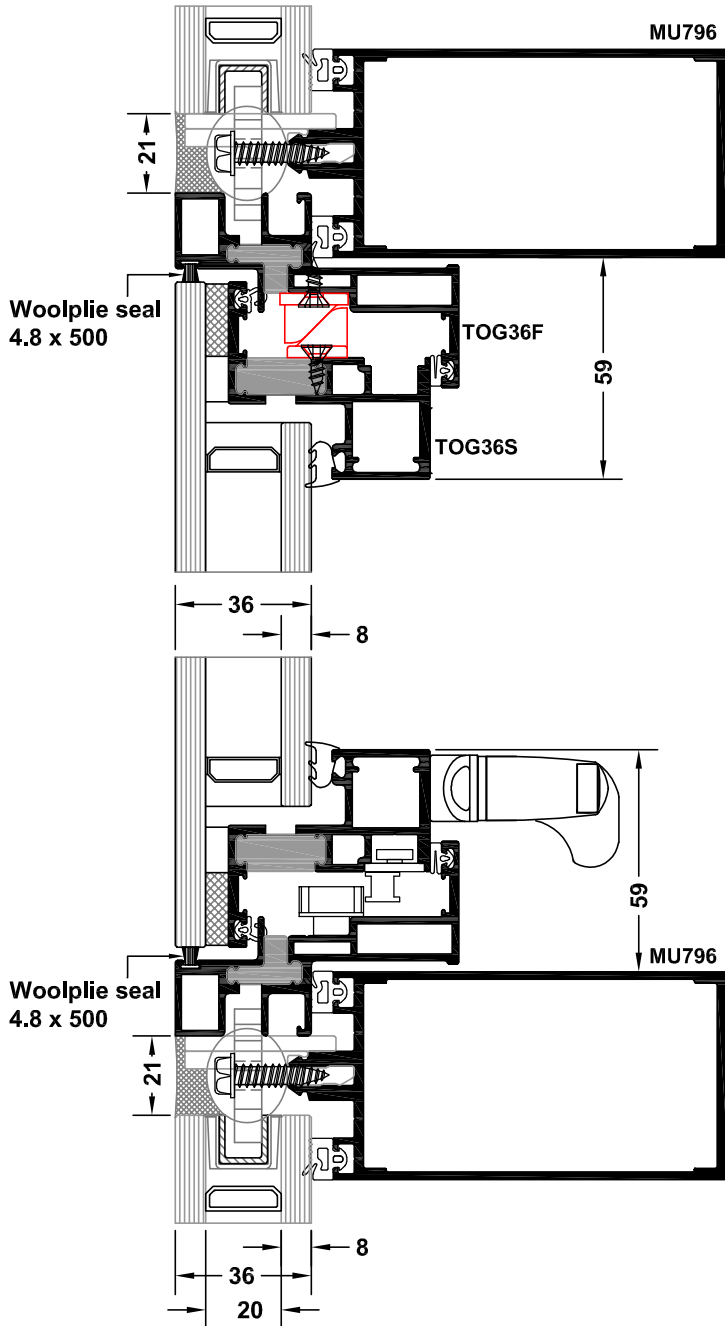
When installing 8/8mm
glazing use closer profile
TOG07C1



MU 800SG CURTAIN WALL SYSTEM

Sash insert detail

Scale 1:2



SASH - TOG36F & TOG36S LIMITATIONS:

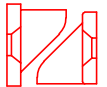
SECTION WEIGHTS:

Allow 3.0 kg/lm for TOG36F and TOG36S combination.

TOP HUNG	Maximum Width (mm)	Maximum Height (mm)	Maximum weight (kg)	Angle of opening
HD 10	1800	750	50kg @ 50° 40kg @ 84°	50° or 84°
HD 16	1800	800	100kg @ 30° 55kg @ 50° 50kg @ 90°	30°, 50° or 90°
HD 22 SB	1600	1500	100 @ 20° 80 @ 40°	20 & 40°
HD 28	1400	1700	100 kg	15°

SIDE HUNG	Maximum Width (mm)	Maximum Height (mm)	Maximum weight (kg)	Angle of opening
HD 10	650	1530	34.5	50° or 84°
HD 16	765	1620	42	30°, 50° or 90°

INTERLOCKING WEDGE Ref LWBK / LWVK :



Top hung:

- A. Up to 1.0m wide: 2 No. interlocks, 1 in 50mm from each end.
- B. 1.0m to 1.6m wide: 3 No. interlocks, 1 in the centre and 1 in 50mm from each end.

Side hung:

- A. Up to 1.0m high: 2 No. interlocks, 1 in 50mm from each end.
- B. 1.0m to 1.6m high: 3 No. interlocks, 1 in the centre and 1 in 50mm from each end.

