### **SPECIFICATION**



#### AMS MU800 Hi Curtain Wall system

MU800Hi mullion drained 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. MU800Hi offers a 55mm sight line and comes in a suite of mullion / transom combinations which range from 60, 96, 125, 145, 155 and 200 mm in depth. The range of thermal isolators allow for glazing with 28, 32, 36, 40 and 54mm units. MU800 Hi offers an extensive range of capping options including fin, squared, boxed and curved profiles. It offers a modular design with the use of our Matrix cap sections. The matrix cap system is available in 3 different depths to suit a range of interface details and also has the option of a frameless sash insert.

#### **Thermal Performance**

AMS MU800Hi curtain walling is designed to offer the specifier excellent U-frame and U-curtain wall values. This is achieved with the use of the extended thermal isolator which greatly reduces the energy loss across the façade and improves the CO2 footprint of the building. Building thermal performance requirements are easily achieved with the use of the AMS MU800Hi 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 polyurethane powder coated to BS EN 12206-1:2004. AMS offers in house painting with the following Qualicoat approved paint suppliers –Valspar / Syntha Puvin, Akzo-Nobel Interpon, Axalta.

#### Decoral

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

Chestnut, Cinnamon, Dark Oak, Finest Black, Golden Oak, Knotted Pine, Mahogony, Natural Maple, Natural Oak, Natural Oregon, Oregan, Raw Teak, Rosewood, Teak, Wengen Walnut, Mandal Maple, Winchester Oak, Worn Ash, Burnt Oak, Barn Oak, Truffle Oak, Mid Oak and Teak Softwood

#### Anodised

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

### **SPECIFICATION**



#### **Fabrication**

The AMS MU800 Hi 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 engineering calculations.

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 and a special sealing gasket is to be positioned between mullions and transoms for improved weather and air tightness. Mullion splice joints are sealed and weathered using splice cover profiles. Transoms to be screw fixed into the 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. All Gaskets are EPDM and manufactured to BS 4255 and tested to BS EN 12365-4:2003. MU800 Hi can accommodate glazing thickness of 28, 32, 36, 40 and 54 mm.

Glazing shall be in accordance with current standards and Building Regulations.

#### Installation

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

#### Performance

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.							
Wind resistance safety – Class - 3600Pa.							
Impact resistance - BS EN 14019:2016.							
Soft body - Serviceability, class E2.							
Safety, class E4 & E5.							
Hard body - Serviceability, class E5.							
Safety, class E5.							

CWCT T	N75 / TN 7	6				
Soft bod	y - Service	ability, ca	tegory B,C,	E&F - Cla	ss E1.	
	Safety,	category	B,C, E&F -	Class - Ne	egligible ris	k
Hard boo	ly - Service	ability, ca	tegory B&C	- Class 1		
	Safety,	category	B&C - Clas	s - Negligi	ble risk.	
	•					

### **SPECIFICATION**



#### **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

 $H \le 3000$   $\Delta \le H/200$  

 3000 < H < 7500  $\Delta \le 5 + H/300$ 
 $7500 \le H$   $\Delta \le H/250$ 

The recommended torque setting for the pressure plate screw is 5.5 - 6.5 Nm. Where glass weights are in excess of 100Kg'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 kgs 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.

# AMS MU800 Hi - CAPPED CURTAIN WALL SYSTEM Specification Manual

1.4.01: Mullions & Transoms

1.4.02: Mullions & Transoms

1.4.03 : Cappings & Pressure plates

1.4.04 : Inserts

1.4.05 : Gaskets & Accessories

1.4.06: Accessories

1.4.07 : Sleeved Mullions

1.4.08: Profile assembly

1.4.09 : Capping assembly

1.4.10 : Mullion / Transom glass assembly

1.4.11: Mullion / Transom glass assembly

1.4.12: Typical head detail

1.4.13: Typical head detail with Kingspan cladding

1.4.14: Typical cill detail

1.4.15 : Typical fixing detail - Splice joint

1.4.16: Typical fixing detail - Splice detail

1.4.17 : Sash insert details

1.4.18: Door insert details

1.4.19: Typical jamb details

1.4.20 : Typical door jamb details

1.4.21: Corner assemblies

1.4.22 : Typical head detail - sloped glazing

1.4.23 : Typical eaves detail

1.4.24 : Typical ridge details

1.4.25 : Typical cill details - sloped glazing

1.4.26 : False Mullion / Transom detail

1.4.27 : Mullion - Matrix capping details

1.4.28: Transom - Matrix capping details

1.4.29: Matrix capping details

1.4.30: Matrix capping details

1.4.31: Matrix capping details

1.4.32 : Facetted Curtain Wall

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

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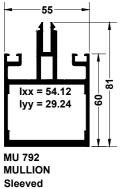


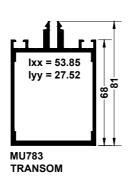


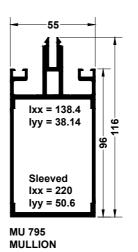


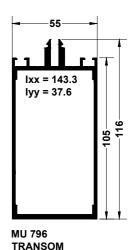


#### **Mullions and Transoms**

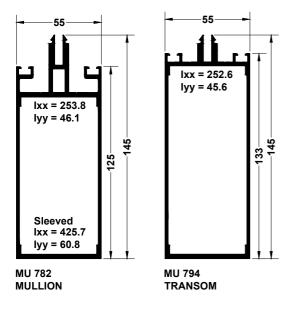


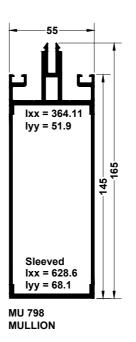


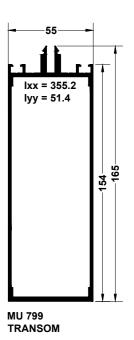




lxx = 69.1 lyy = 45.0



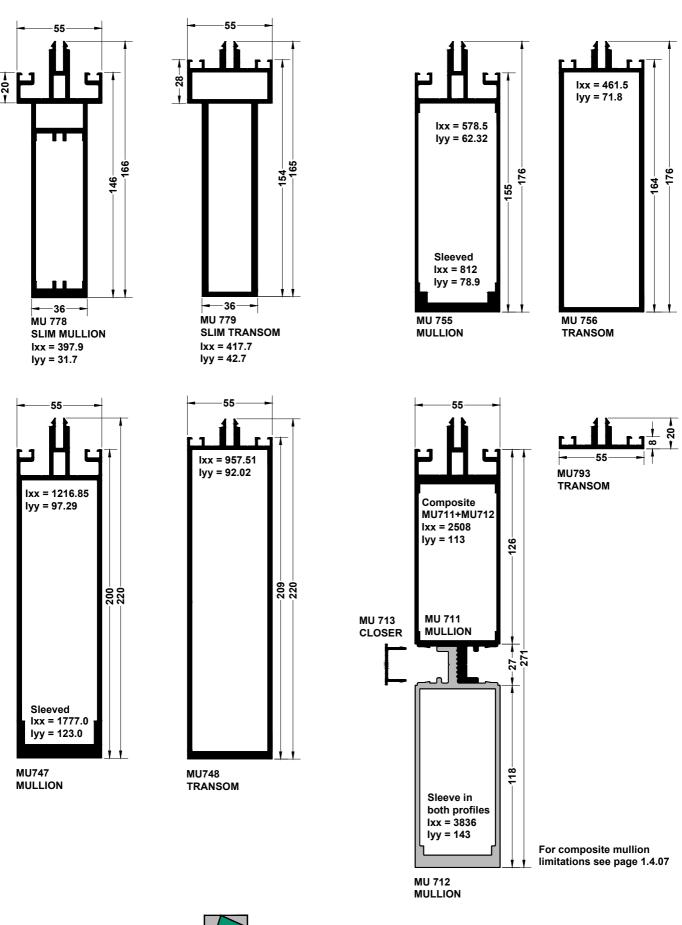




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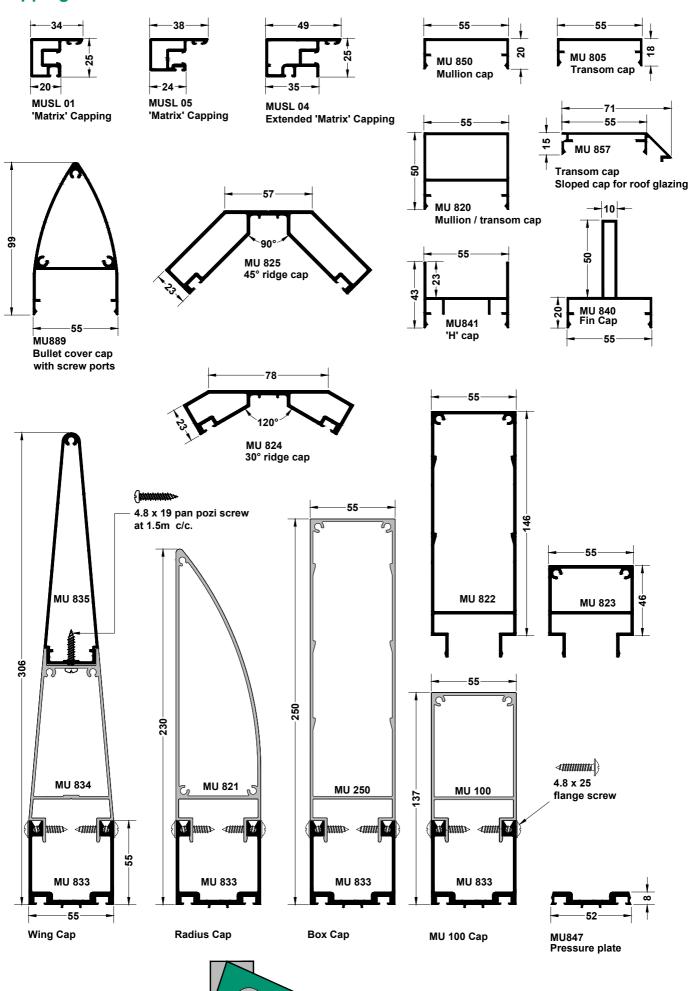
Revision: 05/03/20

### **Mullions and Transoms**

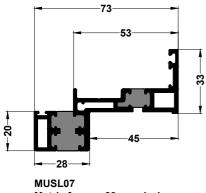




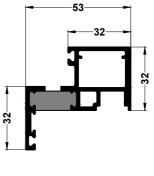
**Cappings and Pressure Plates** 



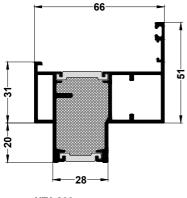
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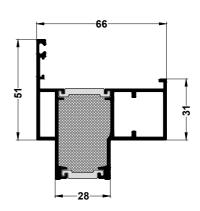
Matrix frame - 28mm glazing



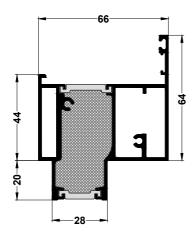
MUSL 06 Matrix sash



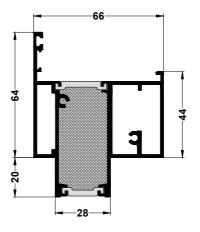
XT6 209 Insert for 28mm glazing



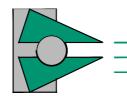
XT6 210 Insert for 28mm glazing, tilt and turn / door frame



Insert for open out doors



XT6 212 Insert for open in doors



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Revision: 05/03/20

#### **Gaskets and Accessories**



CWG001 Pressure plate gasket



**CWG 010** Transom gasket



**CWG 014** Mullion gasket



CWATB2 Isolator for 28mm units



Isolator for 40mm Units (Used with conjunction with CWATB2)



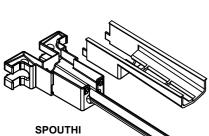
**CWATB 32** Add on for 32mm glazing



**CWATB 36** Add on for 36mm glazing



G1550 Transom sealing / end gasket.



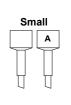
**Drainage Spout pack** (Spout + Addon)

Heads for punch tool

Medium

**Mullion drained** 

holes for cleats



Transom drained holes for cleats



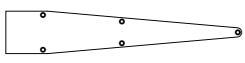
MU889E End plate for MU899 capping



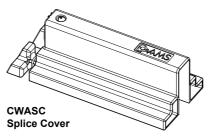
**MU821EC** End plate for Radius capping



MU250EC End plate for Box capping



End plate for Wing capping



Mullion jig

T112

AMM

CWA030

transom screw

No.8 x 19 tamper-proof



T113



Transom jig



**Butyl tape** 50mm - CWG003



MUSI CLIP **Matrix Clip** 



(CDA016) 5.1 x 1200 Woolpile for matrix cap MUSL05



4.8 x 450 Woolpile for all matrix caps



8471 Matrix flipper gasket



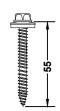
Stepped drill bit T114



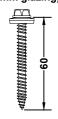
**CWA 031** Drill bit to suit transom screw



**CWA050** No.14 x 50 hex head screw with bonded washer (28mm & 32mm glazing).



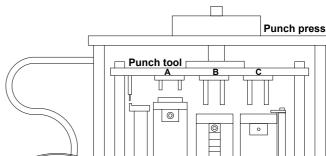
**CWA055** No.14 x 55 hex head screw with bonded washer (36mm glazing)



**CWA060** No.14 x 60 hex head screw with bonded washer (40mm glazing).



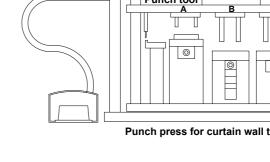
**CWA070** No.14 x 70 hex head screw with bonded washer (54mm glazing).

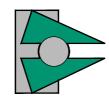


Punch press for curtain wall transoms



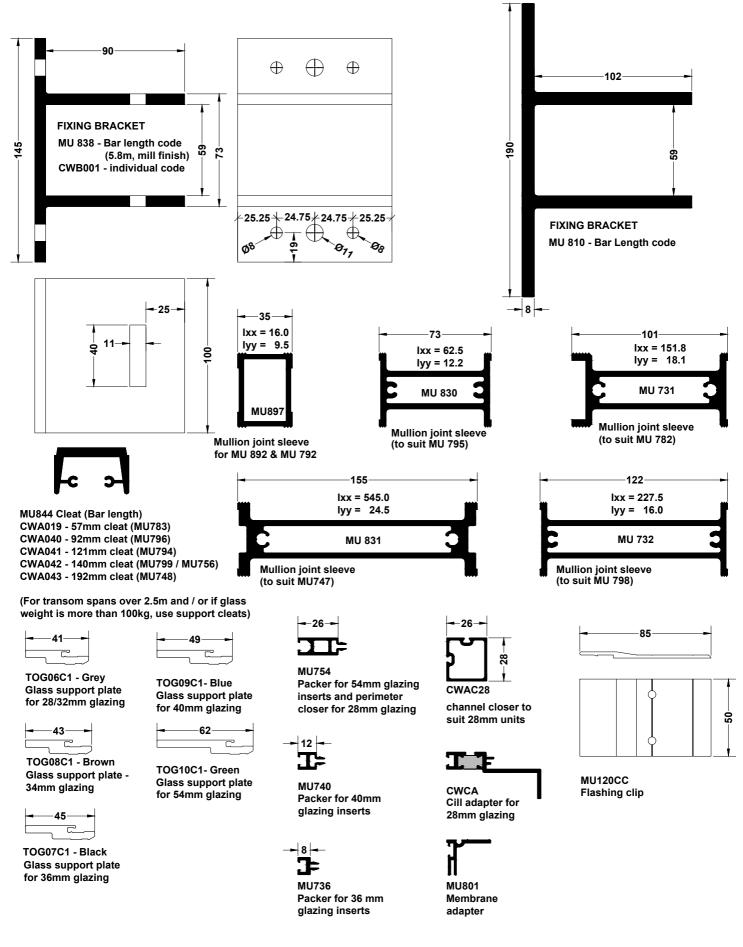
Mullion drained holes for transom fixing screws (Oval head)

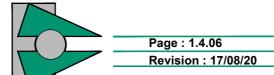




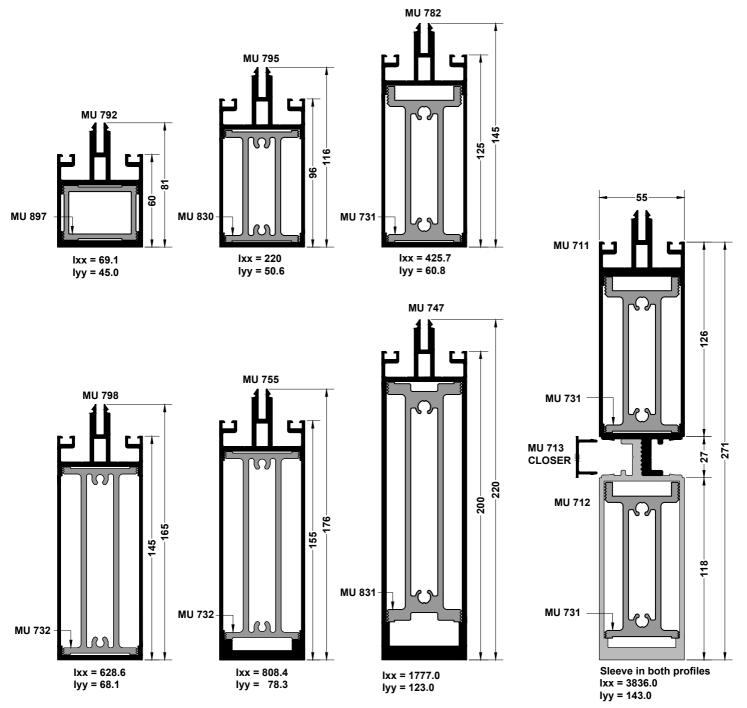
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**Sleeved Mullions** 



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 731 in both cavities, M10, socket head stainless steel bolts to be fitted at 250mm C/C and torque to 35Nm. (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 = 1.2 m Wind load = 1500 Pa.

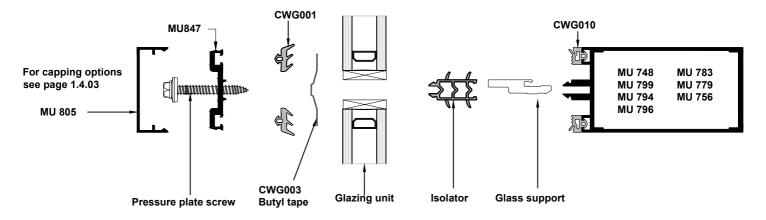
#### Span 2:

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

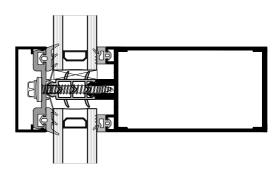


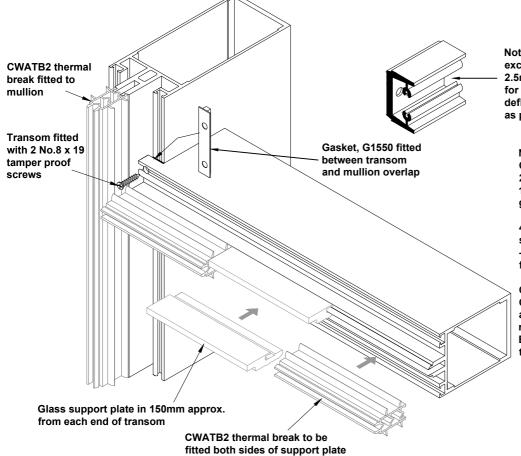
# MU 800Hi - CAPPED CURTAIN WALL SYSTEM Profile assembly

#### TRANSOM ASSEMBLY



GLAZING THICKNESS	PRESS.PLATE SCREW	ISOLATOR	GLASS SUPPORT
28	CWA050	CWATB2	TOG06C1 - Grey
32	CWA050	CWATB2 + CWATB32	TOG06C1 - Grey
36	CWA055	CWATB2 + CWATB36	TOG07C1 - Black
40	CWA060	CWATB2 + CWATB	TOG09C1 - Blue
54	CWA070	CWATB2 + CWATB2	TOG10C1 - Green





Note: Support cleat to be used when glazing unit exceeds 100 kg and / or transoms spans more that 2.5m. (See page 1.4.06 for cleat codes), Max load for transom / cleat combination is 500 kg. Ensure deflection on transom does not exceed 3mm as per CWCT guidlines.

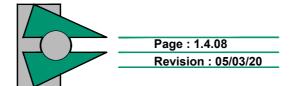
#### Note:

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

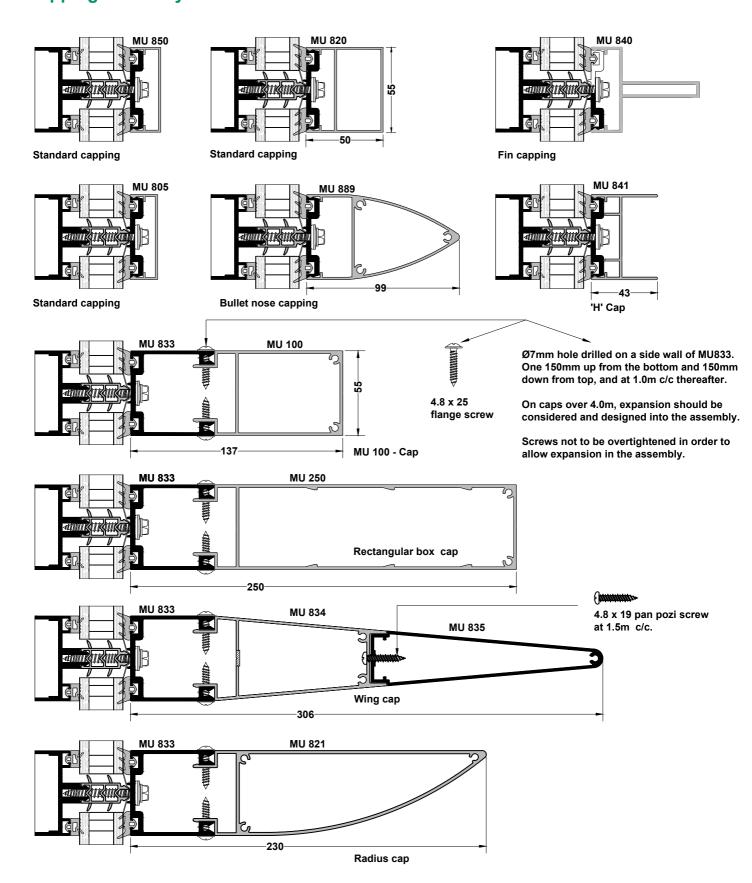
4 No. Standard 100mm support plates, 2 side by side positioned in 150mm approx from each end - max area of glass =  $6.6m^2$ . Glass packers to be fitted for full width of both plates.

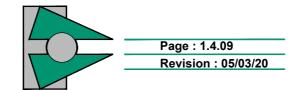
#### Glass packers:

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.

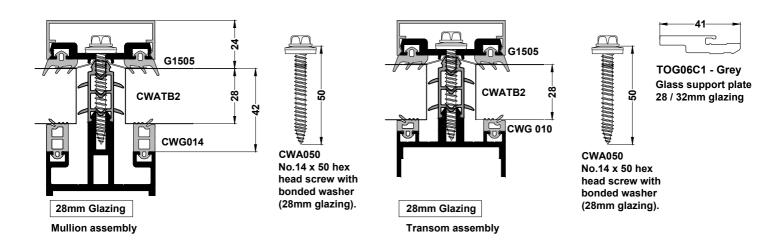


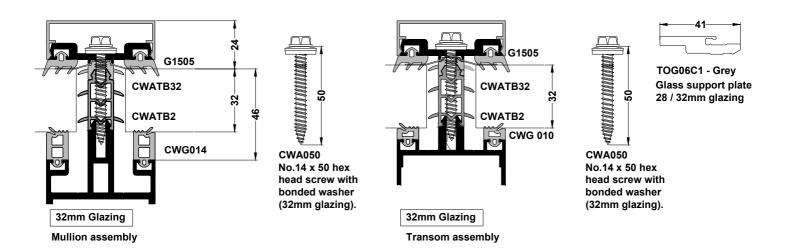
#### **Capping assembly**

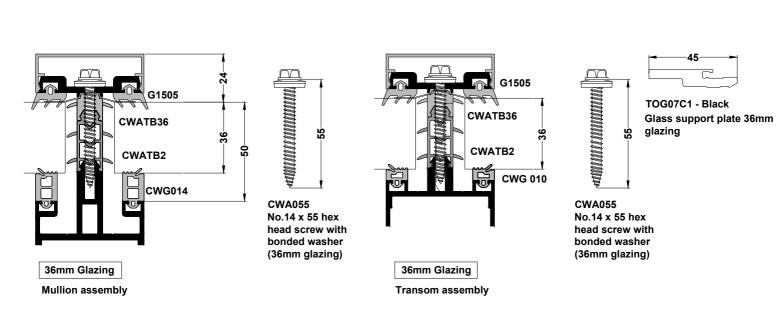


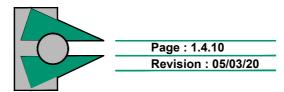


Mullion / Transom glass assembly

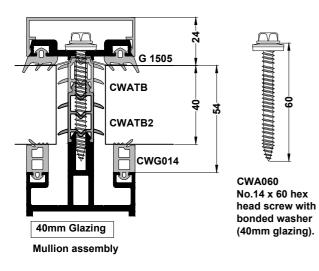


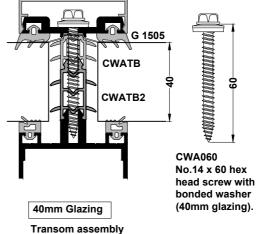




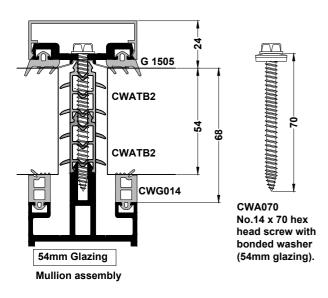


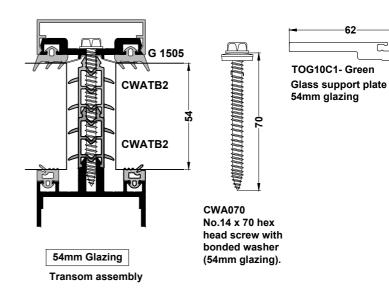
Mullion / Transom glass assembly

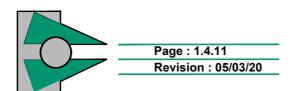




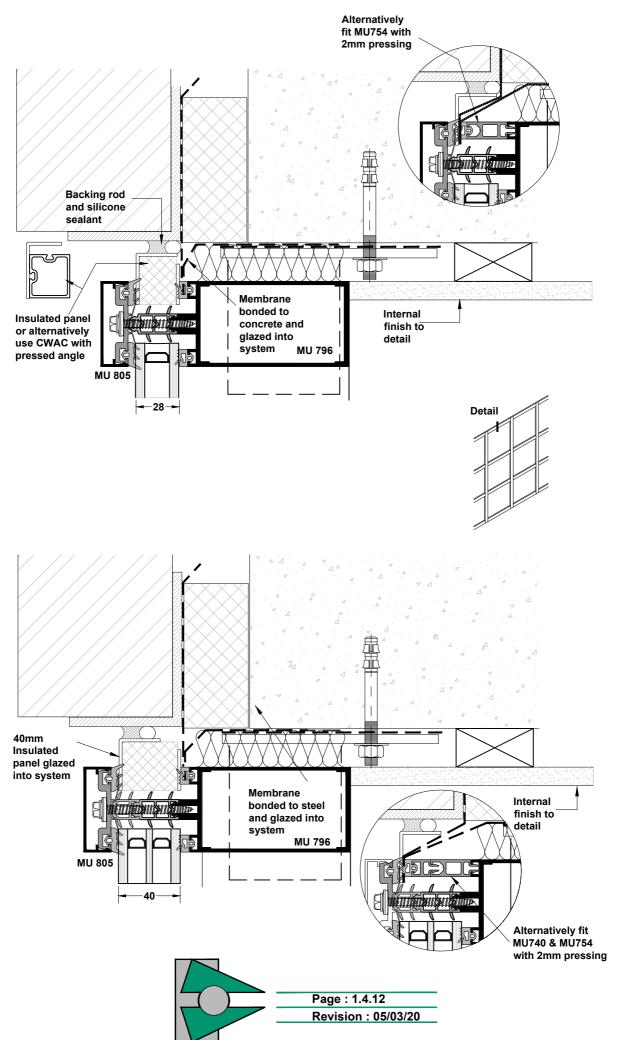




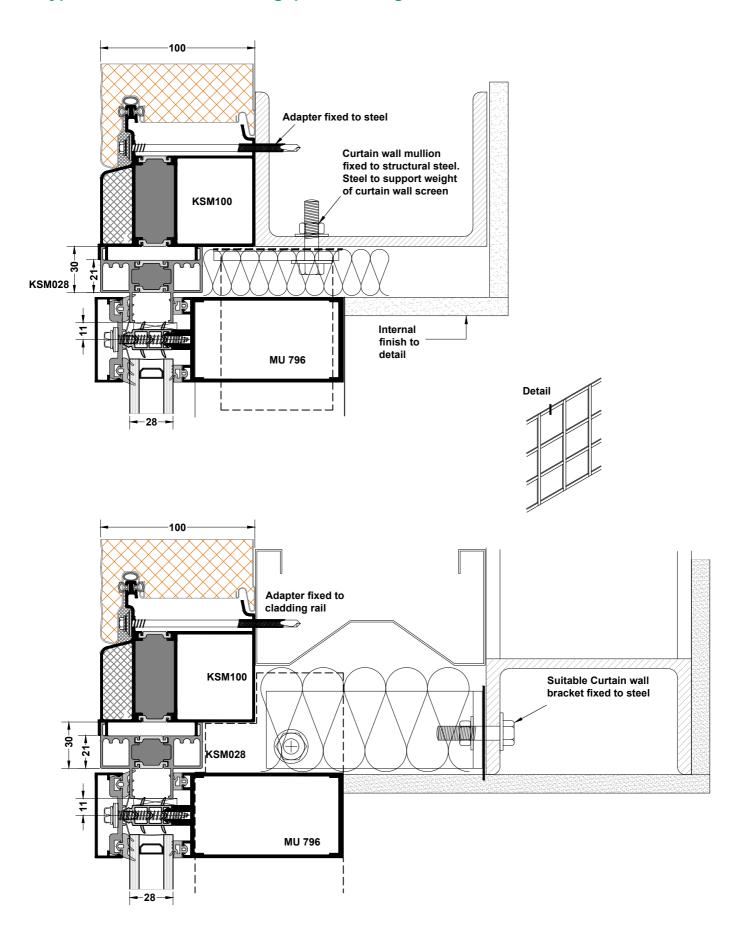


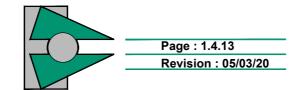


Typical head detail

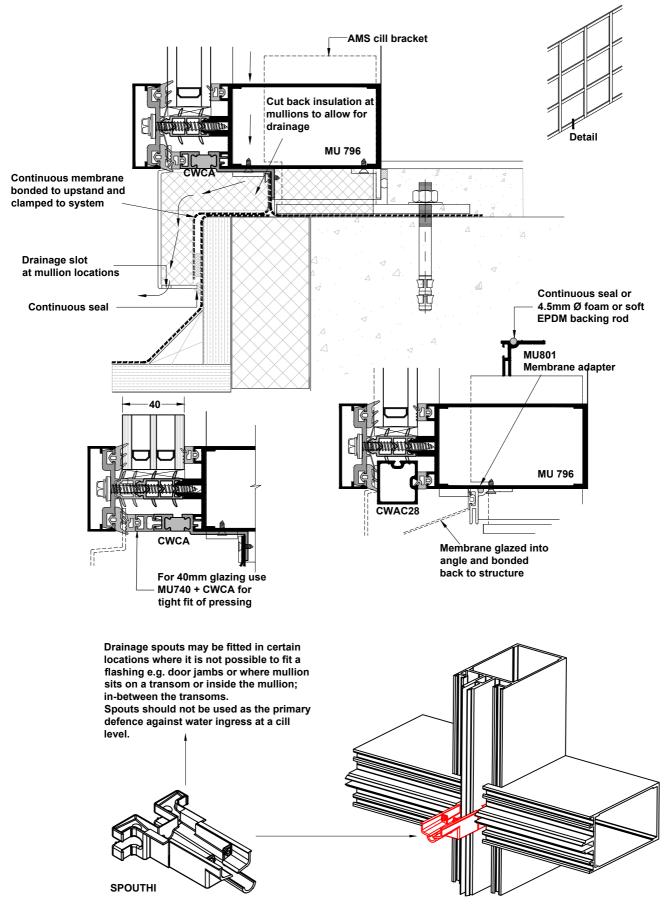


Typical head detail with Kingspan cladding

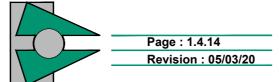




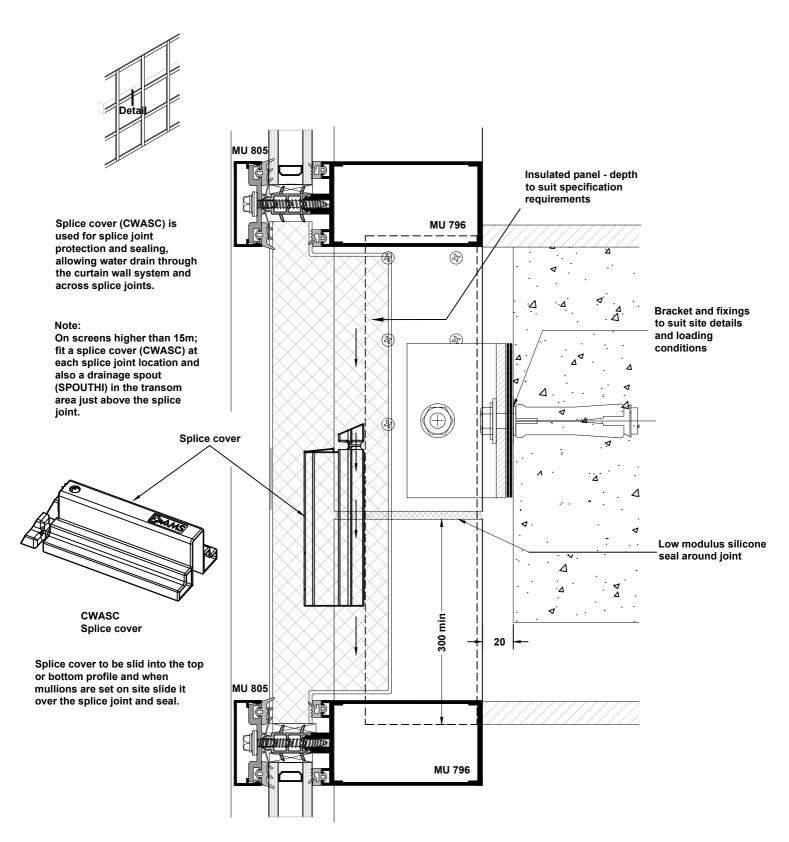
# MU 800Hi - CAPPED CURTAIN WALL SYSTEM Typical cill detail

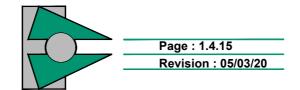


Drainage Spout (SPOUTHI) fitted inside the mullion; in-between the transoms

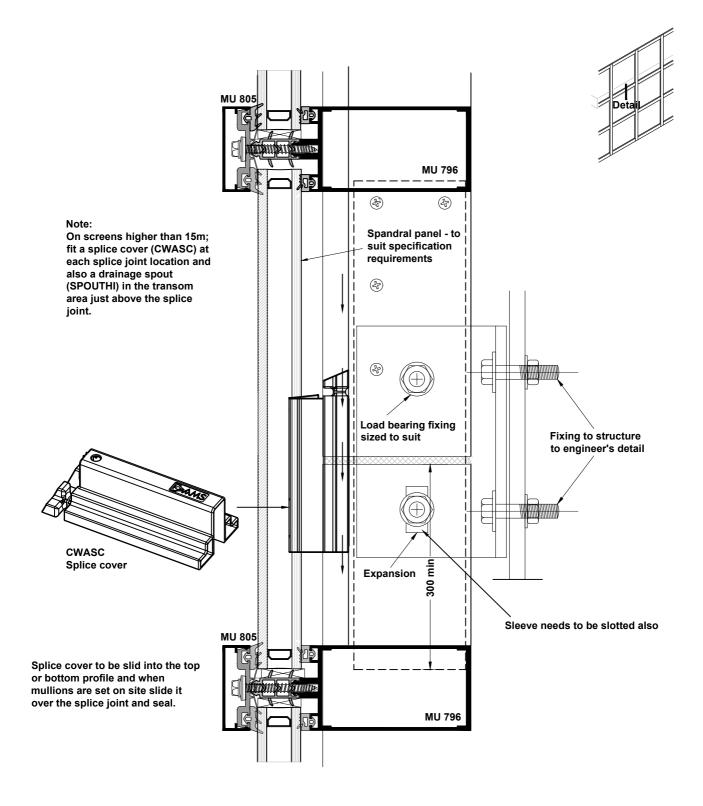


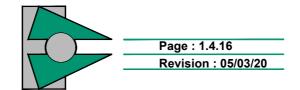
Typical fixing detail - splice joint



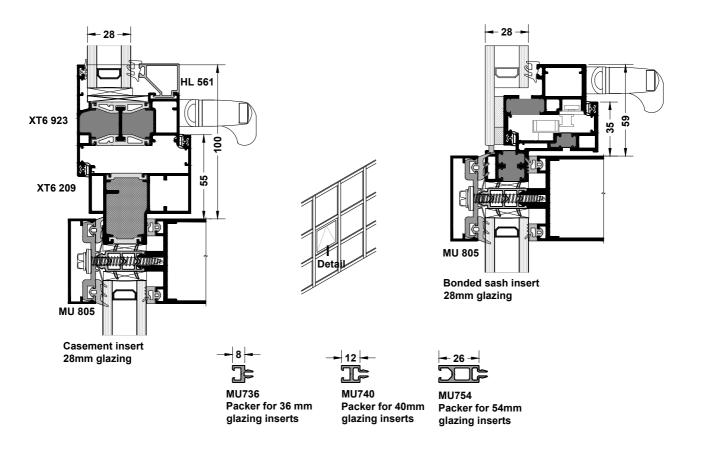


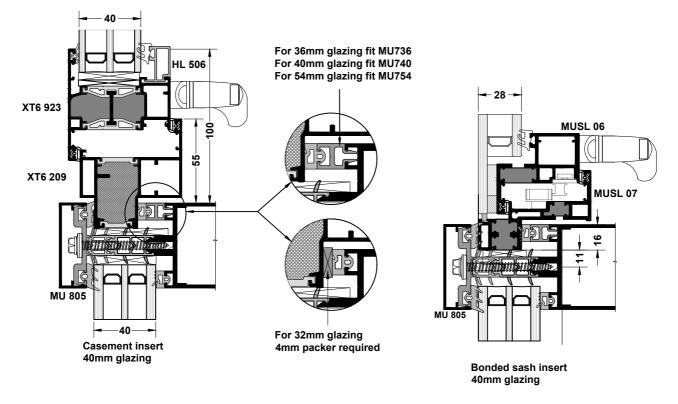
Typical fixing detail - splice detail

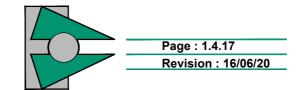




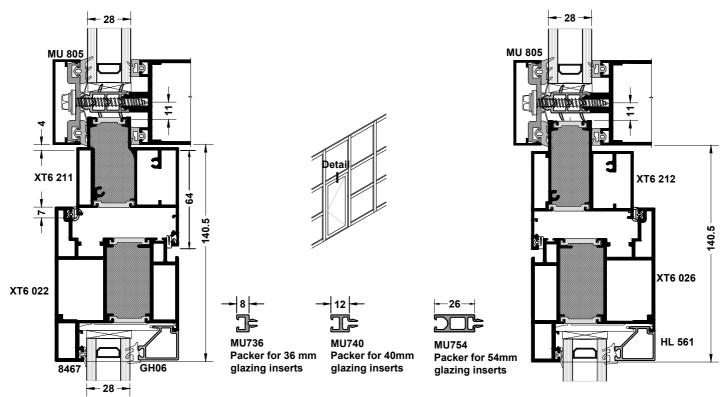
### Sash insert details



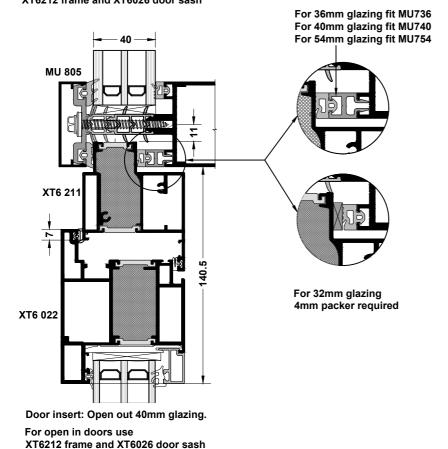


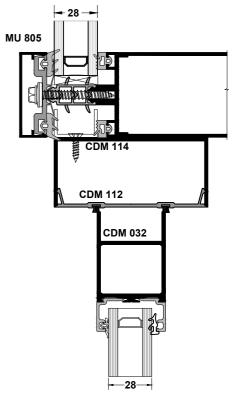


#### **Door insert details**

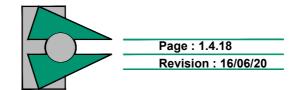


Door insert: Open out 28mm glazing. For open in doors use XT6212 frame and XT6026 door sash Door insert: Open in 28mm glazing

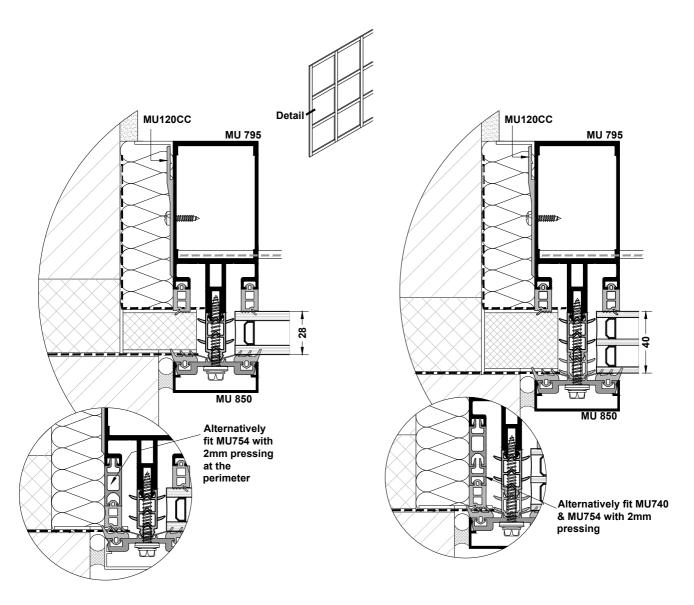


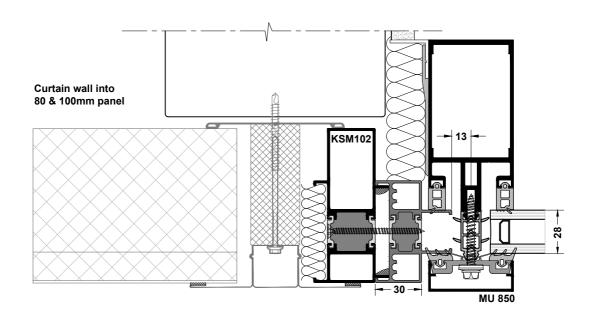


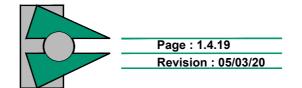
Commercial door into curtain wall



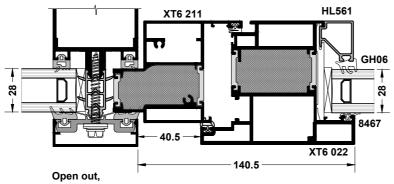
Typical jamb detail



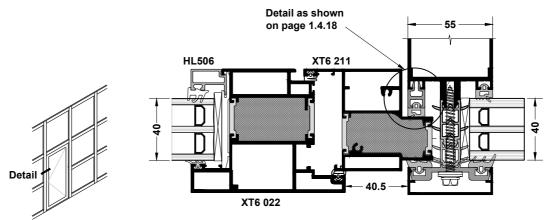




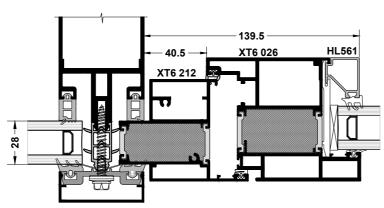
Typical door jamb detail



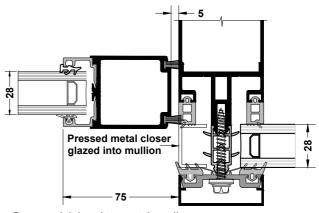
internally glazed XT66 rebate door



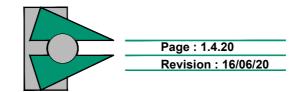
Open out, internally glazed XT66 rebate door, 40mm glazing



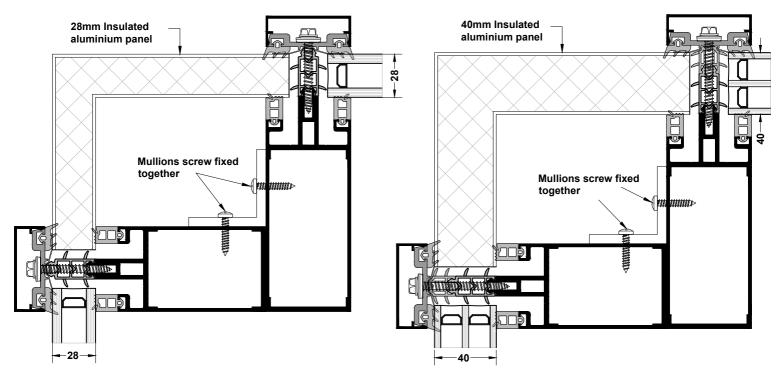
Open in, internally glazed XT66 rebate door (40mm Triple glazing achievable as per open out detail shown above)



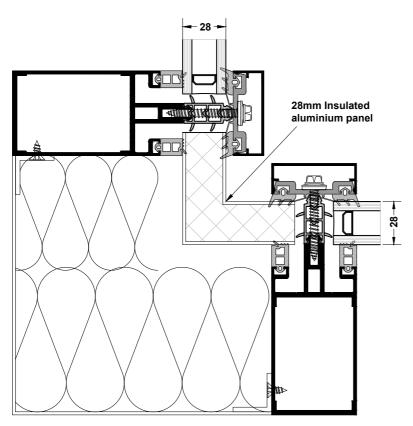
Commercial door into curtain wall (Max thickness of glass into commercial door is 28mm)

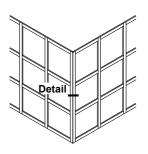


#### **Corner assemblies**

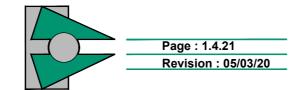


External corner with MU 795 & MU 782

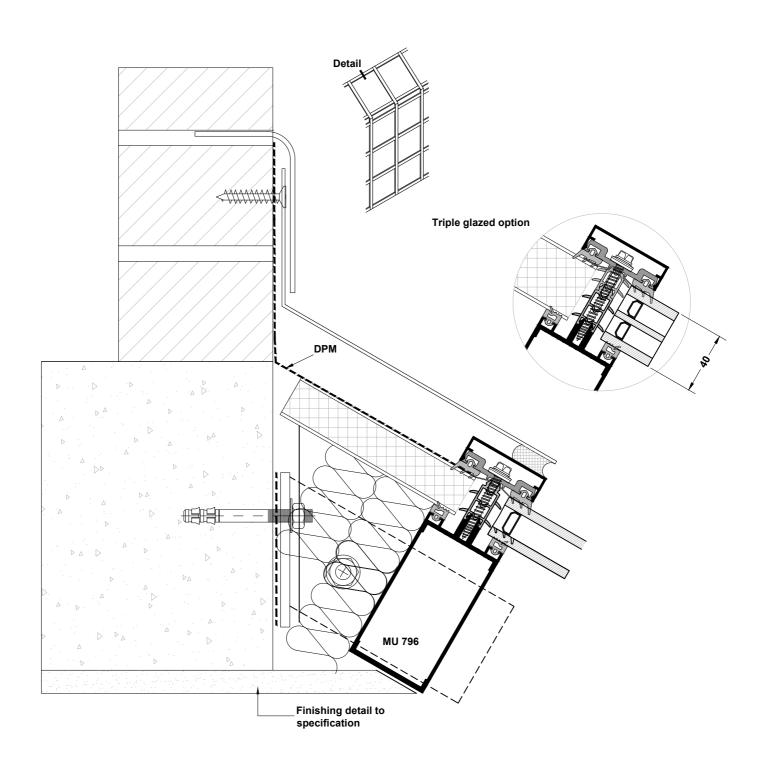


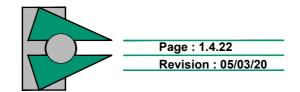


Internal corner with MU 795

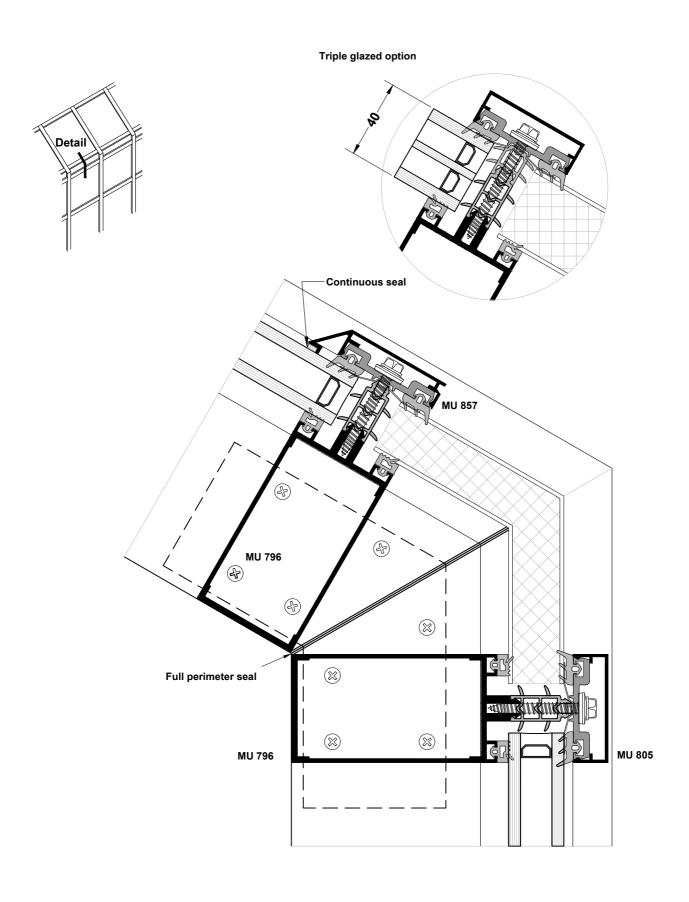


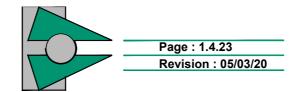
Typical head detail - sloped glazing



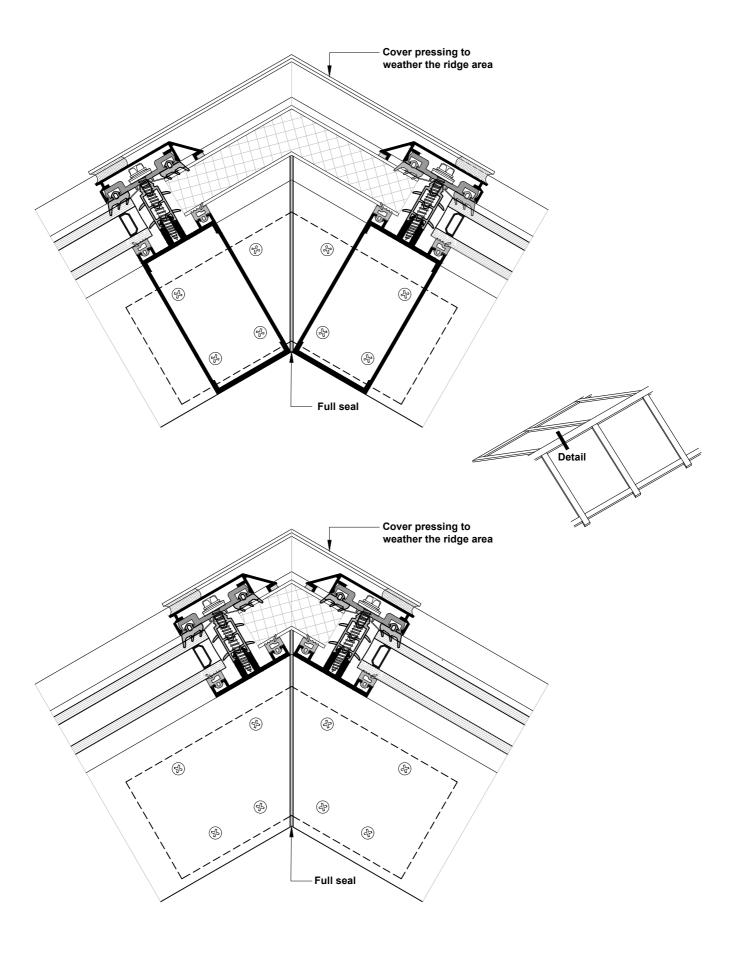


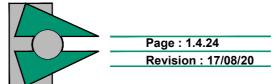
Typical eaves detail



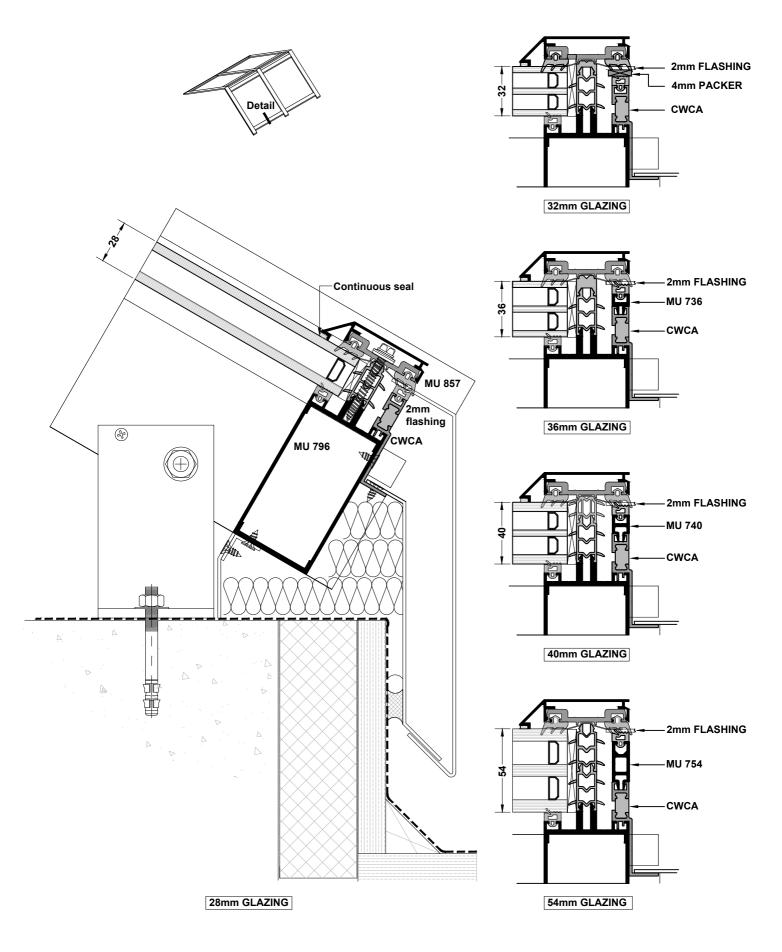


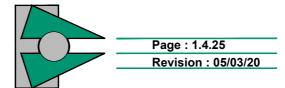
Typical ridge details



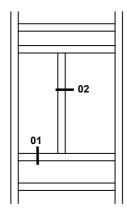


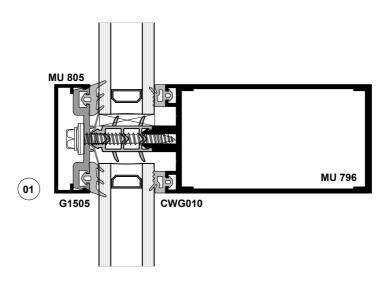
Typical cill details - sloped glazing

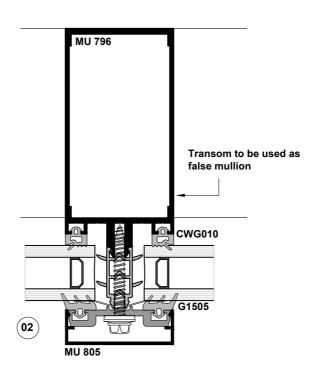


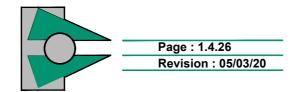


False Mullion / Transom detail

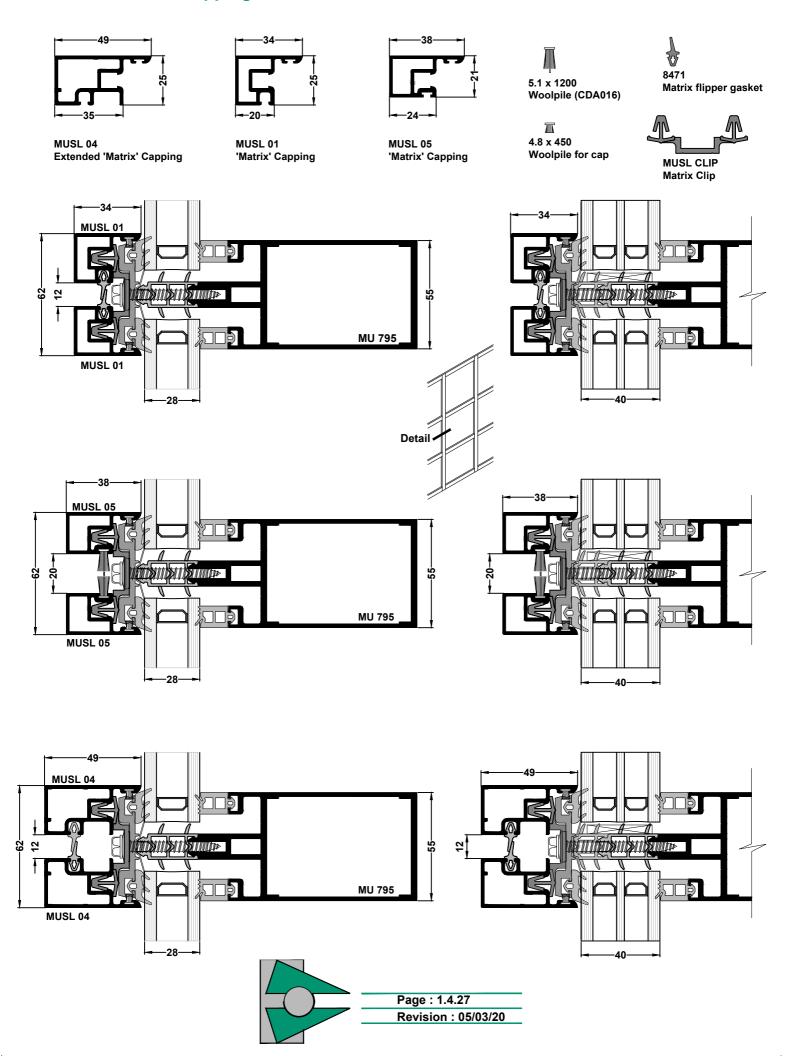




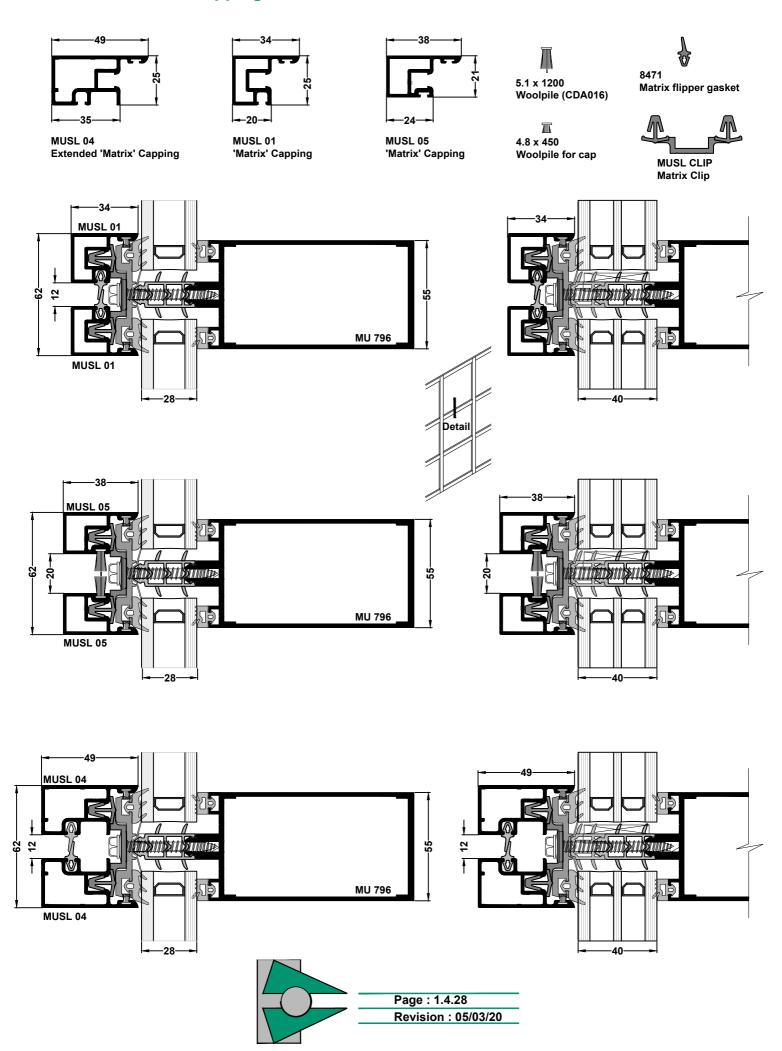




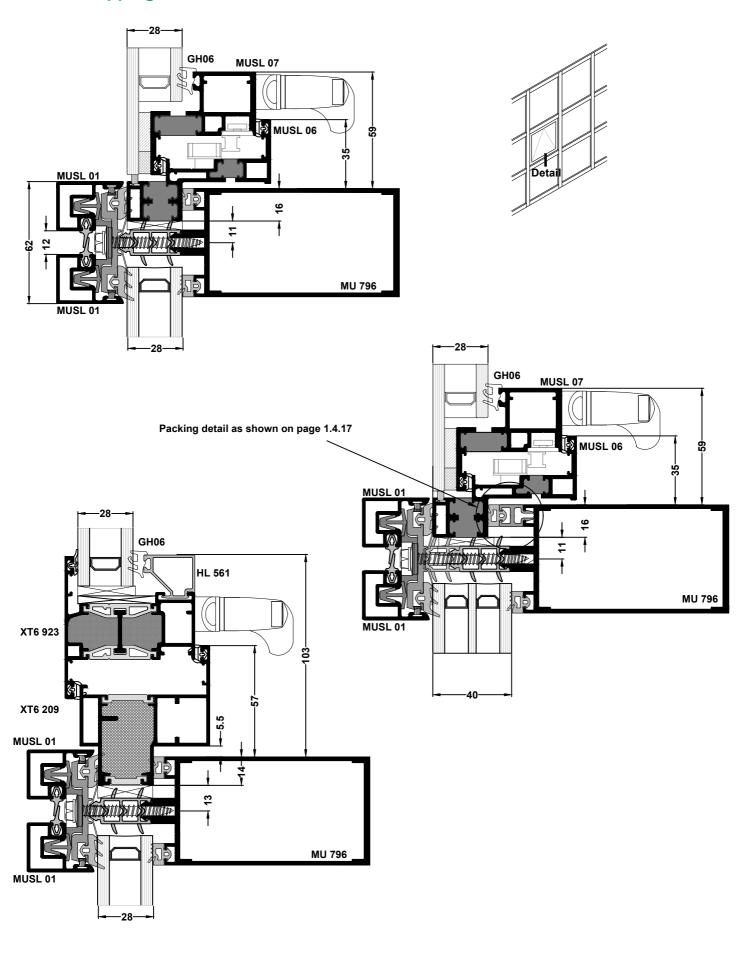
Mullion - Matrix capping details

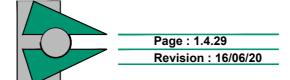


**Transom - Matrix capping details** 

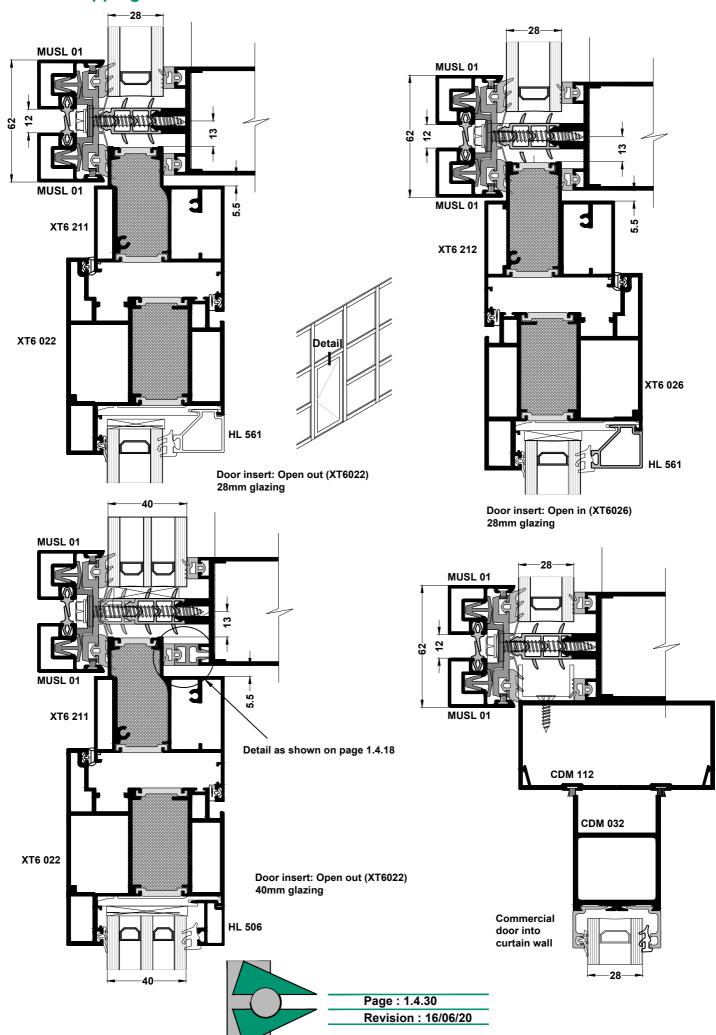


**Matrix capping details** 

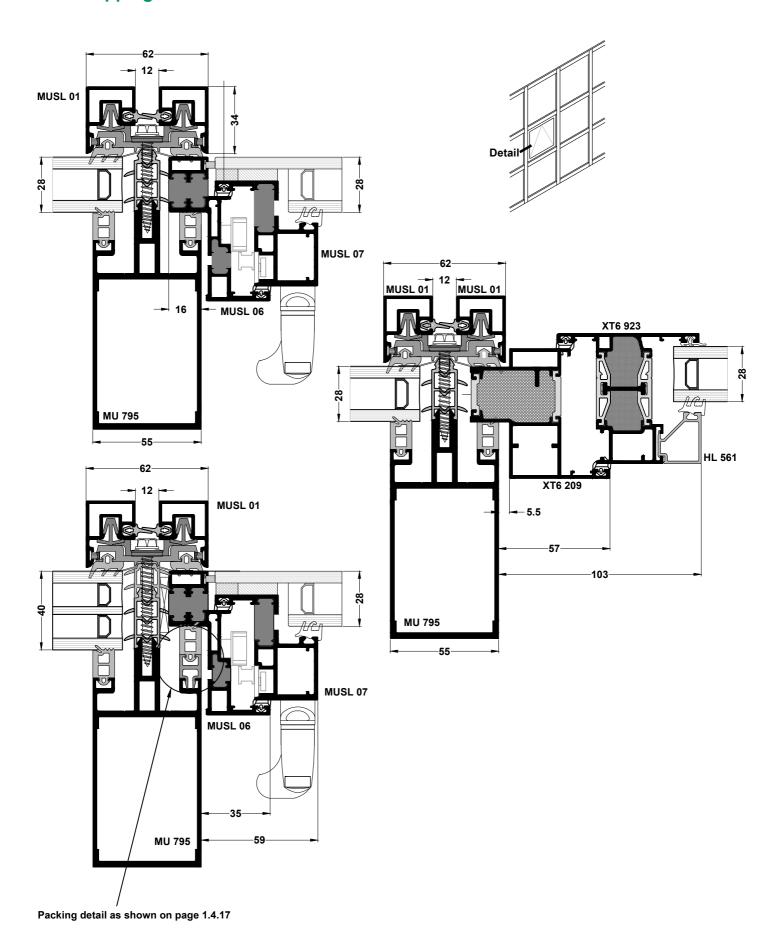


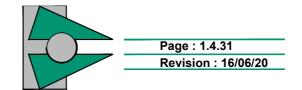


**Matrix capping details** 



**Matrix capping details** 





**Facetted Curtain Wall** 

