

### Max™ SG182 Structural Glazed - 40mm Rebate



#### **FEATURES:**

- 182mm Frame Depth
- Narrow 54mm face as a framing system
- Several Mullions combinations
- Dedicated stack joint
- Structural Glazed
- Integrates with Max 200 Front Glazed 40mm pocket
- Accepts 32 34mm IGU's with 6.4 Backing tape
- Can incorporate single glazed spandrels
- External glazed
- Structural Glazed multi locking sash

#### **FABRICATION:**

- Easy Screw Flute Joinery Fabrication
- Complex machining of stack Head & Mullions as curtain wall
- Unitised panels

#### **PRODUCT APPLICATIONS:**

- Shopfront, Ribbon Windows or Punched Openings see 200 Front Glaze
- Stack joint detail allows panels to stack beside, above & below

#### LIMITATION:

- External Glazed only
- Factory Glazed not recommended for site glazing

#### **TESTING:**

Tested to AS2047 & AS4284 (curtain wall)

#### NOTE:

- The use of 4 sided structural glazing requires great attention to detail in the glazing of frames. Ideally frames are factory glazed in a clean, controlled atmosphere & dust free environment
- Glazing methodology, glass cover & silicone bite should be referred to tape & silicone suppliers for suitability to the application

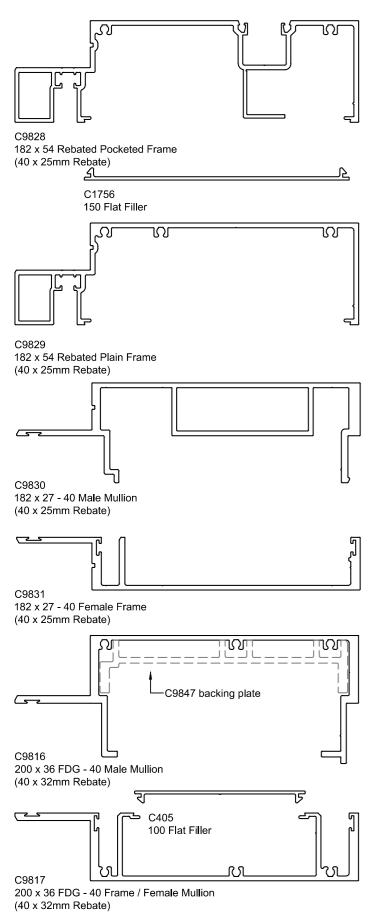
#### **ALTERNATIVES:**

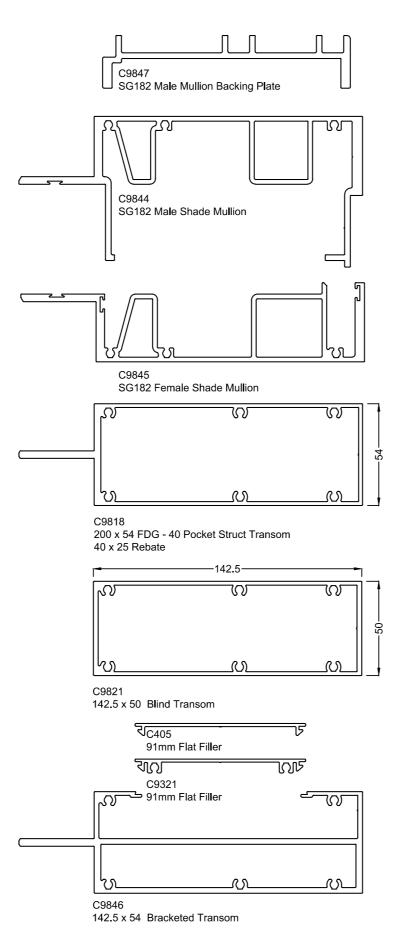
• Max 150mm Structural Glazed - 31mm pocket

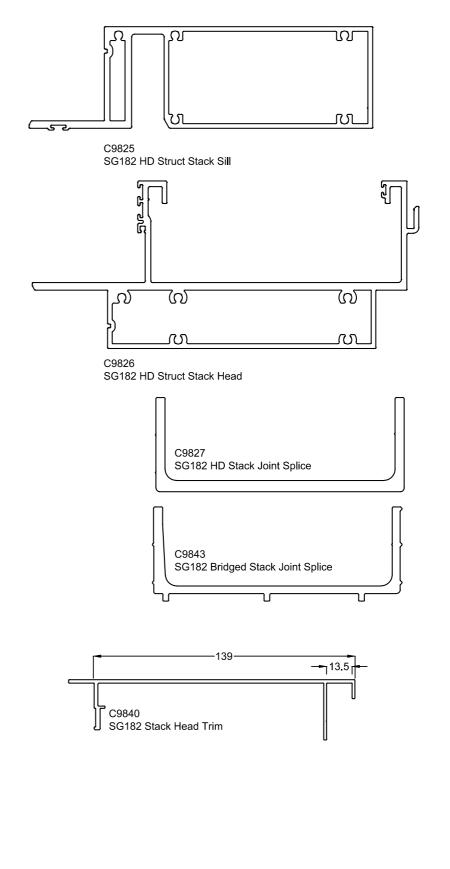




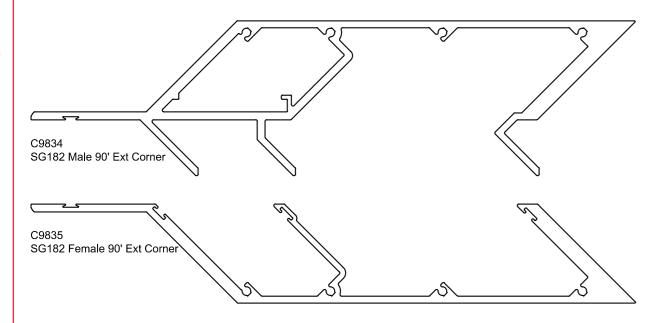
#### **Extrusion ID**

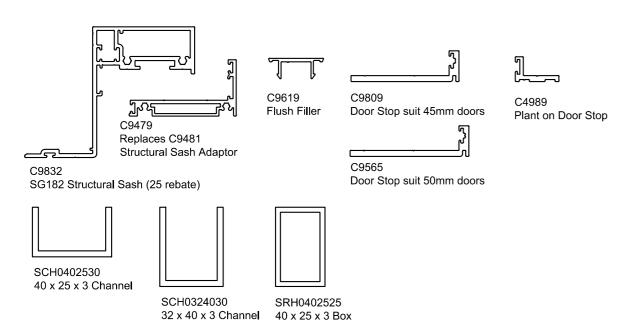


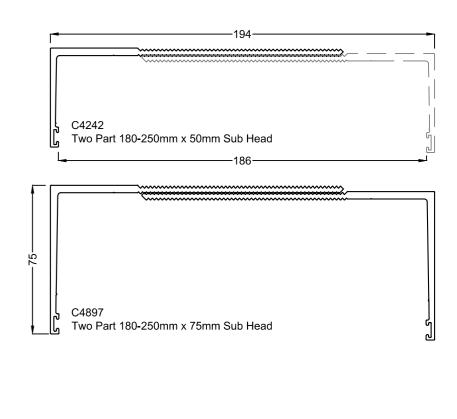


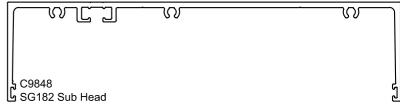


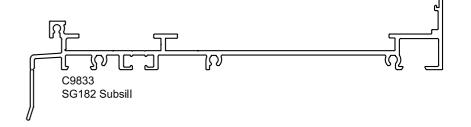




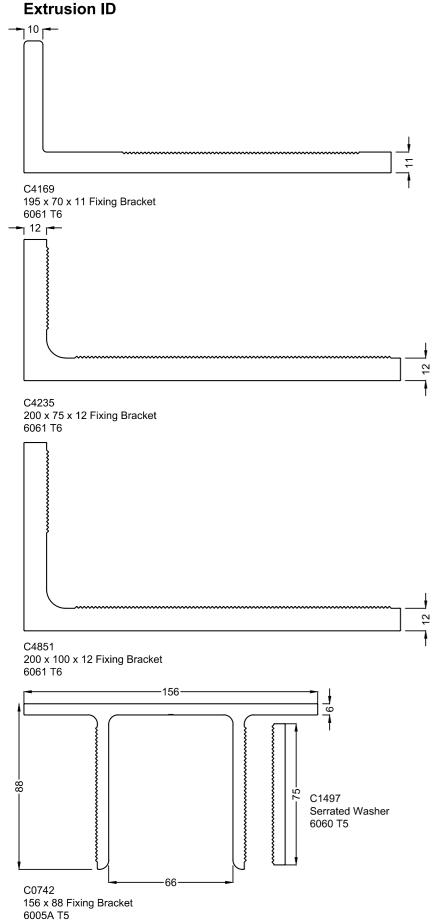


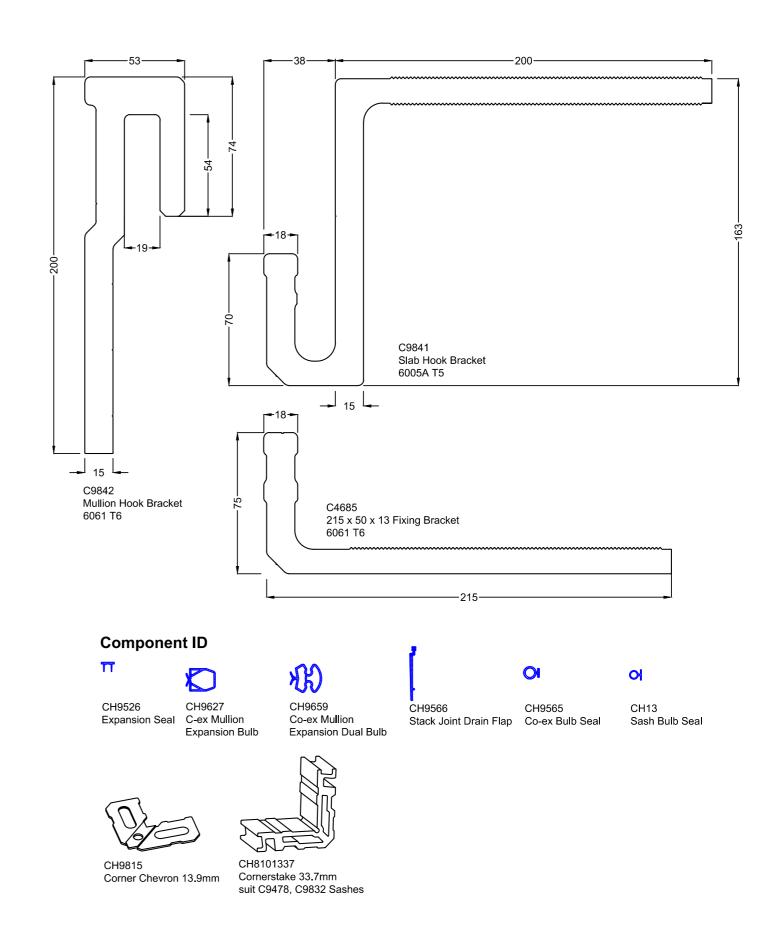








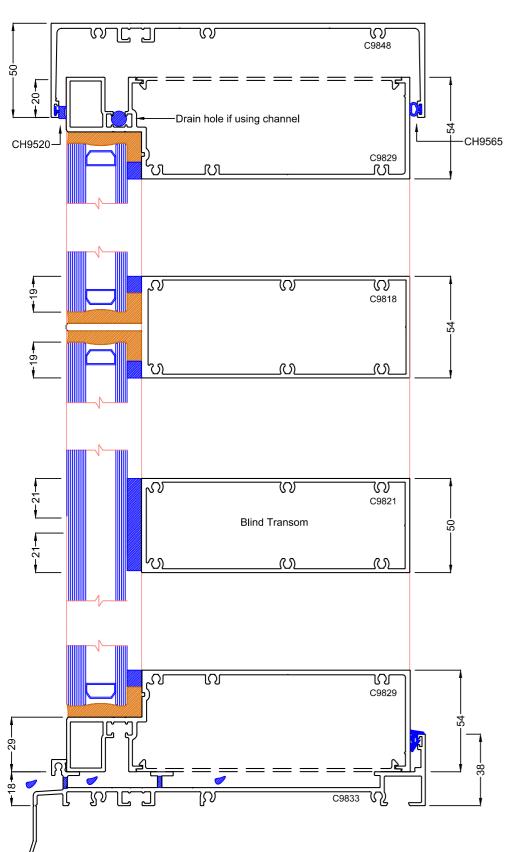




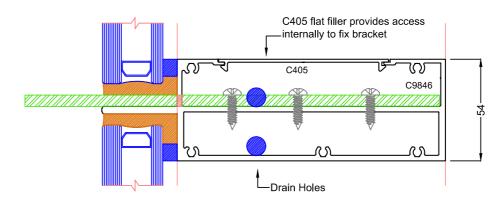


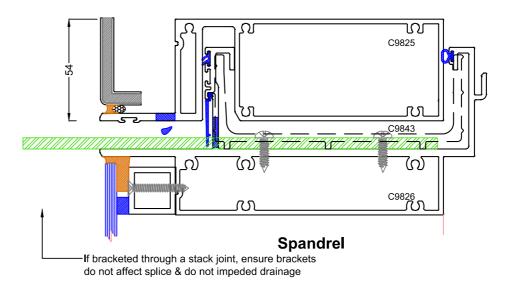
#### Head & Sill detail as a Framing System

The detail below & page prior details low profile structural frame members than what is typically used in the curtain wall detailing. The rebate depth of face of 25mm is common on all assemblies allowing it to be used in conjunction with C9832 structural glazed Sash.



### Bracketed Head / Transom / Stack joint detail At times it is necessary to bracket horizontals & some examples are shown below





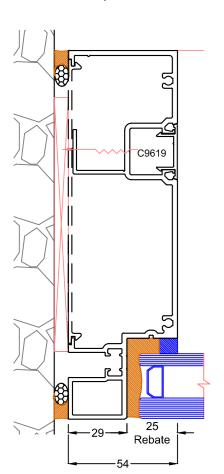


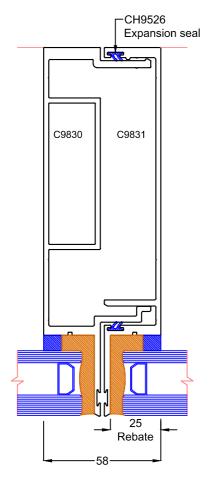
# Max<sup>™</sup>182 STRUCTURAL GLAZED FRAMING & CURTAIN WALL - 40mm Rebate Max Framing Systems: M182CW40 - 6 Jamb & Mullion Detail as a Framing System

The detail below& page prior details low profile structural frame members than what is typically used in the curtain wall detailing.

The rebate depth of face of 25mm is common on all assemblies allowing it to be used in conjunction with C9832 structural glazed Sash.

All profiles are compatible with the curtain wall assemblies deeper curtain wall assemblies if they need to be combined.



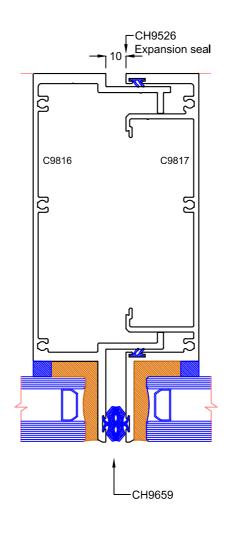


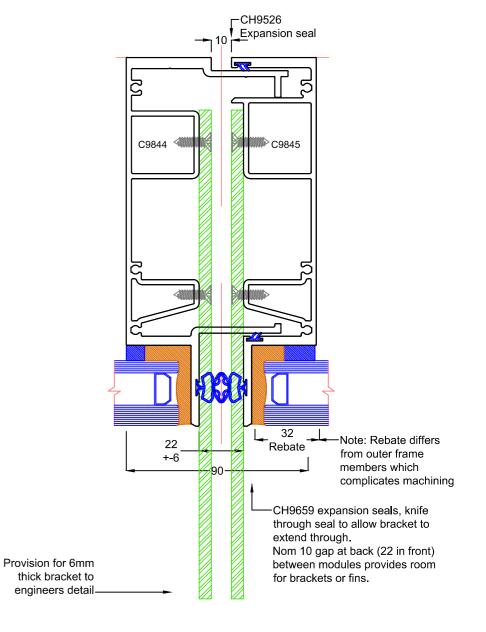
#### Mullion Detail as a Curtain Wall

The rebate depth of face of Mullions is 32mm & differs from the narrower faced mullions & horizontals which are 25mm. These profiles are not suited to the structural glazed sash.

#### C9844, C9845 Shadescreen Mullion

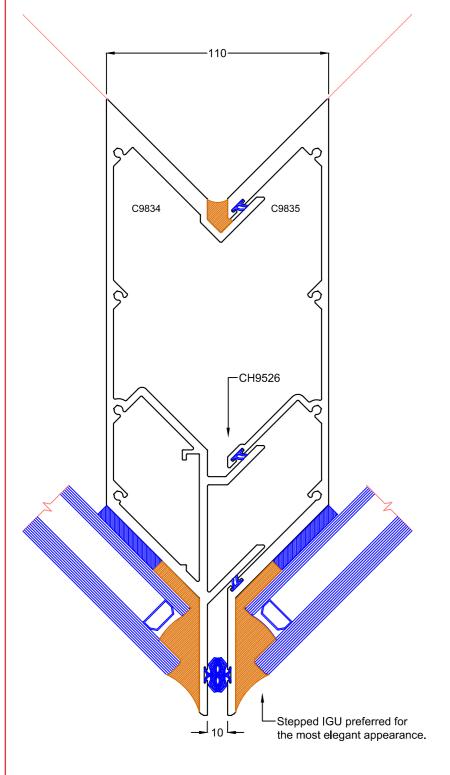
The broader face & internal hollow allow brackets or fins to be side fixed into mullions. These profiles are not suited to the structural glazed sash.







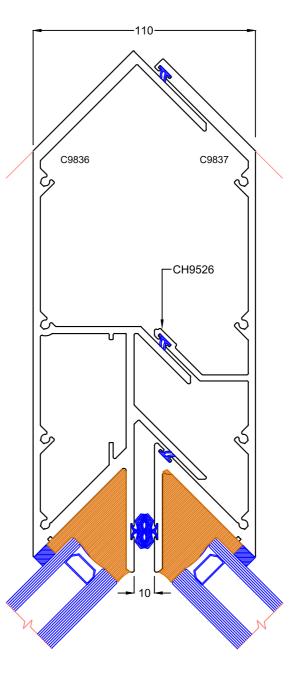
90' External Corner



### 90' Concept Internal Corner

Sections not currently developed

MAX™ 182 Structural Glazed Framing & Curtain Wall



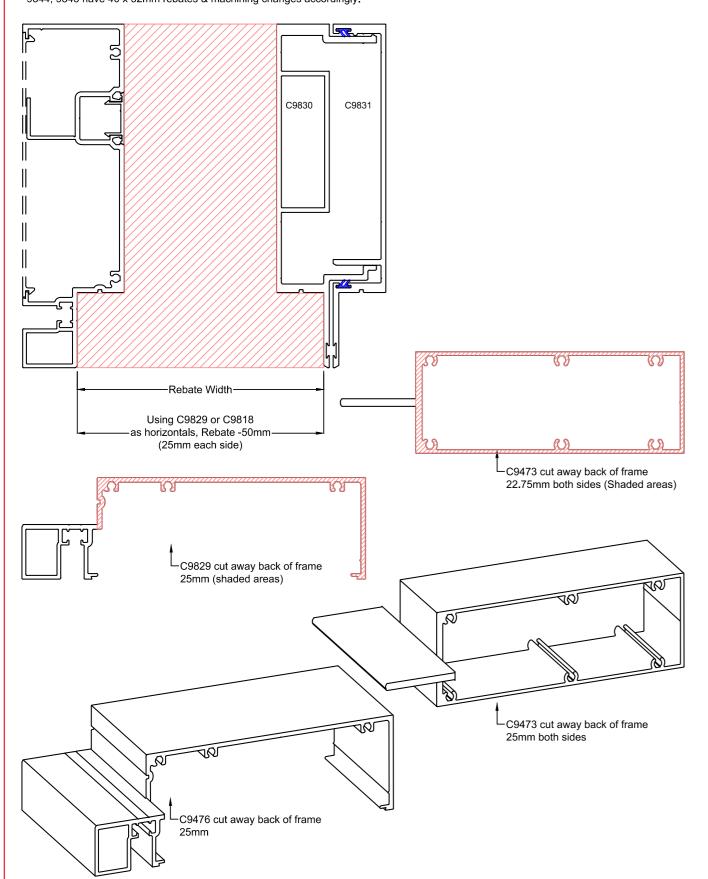
MAXTM



## Max<sup>™</sup>182 STRUCTURAL GLAZED FRAMING & CURTAIN WALL - 40mm Rebate Max Framing Systems: M182CW40 - 8

#### Machining Head, Sill & Transoms

Horizontals are generally back notched 25mm from each end as detailed below. Note that Heavy Duty curtain wall mullions C9816, C9817, 9844, 9845 have 40 x 32mm rebates & machining changes accordingly.

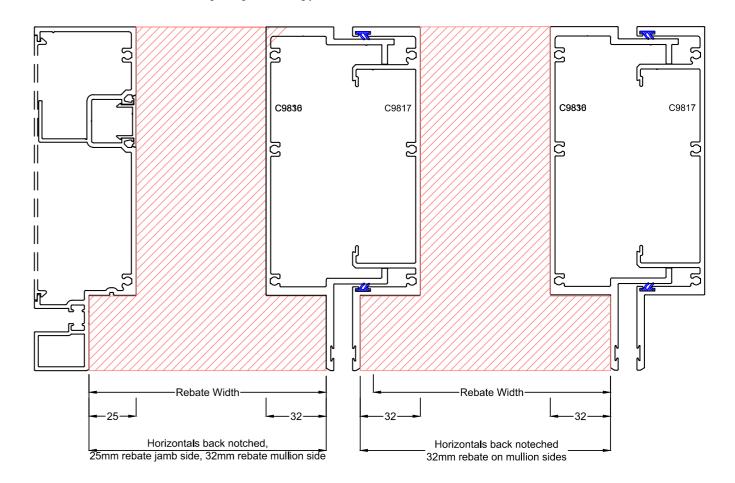


#### Machining Head, Sill & Transoms

Horizontals are generally back notched 25mm from each end as detailed below.

Note these Heavy Duty curtain wall mullions C9816 & C9817, 9844& 9845

have 40 x 32mm rebates & machining changes accordingly.

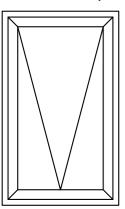




#### **Head & Sill with Structural Glazed Sash**

This sash is only suited to mullions & horizontals with a rebate depth of 25mm.

It does not suit heavy mullions or rebates on stack joints.



#### Note:

- Adapts into assemblies with 25mm rebates ie: Curtain wall mullion is unsuited (32mm rebate)
- Maximum Sash weights generally are 130kg on stays.
- Handle Operated key locking & multi locking, mounted on bottom rail
- Casement sashes have handle mounted on the sash stile with 72kg limit
- Not recommended for use with winders
- Max Height: 2100mm
- Max width: 1200mm
- Accepts Q-lon Acoustic seals
   Congrally suited to 24 22mm ICI
- Generally suited to 24-32mm IGUs Please refer the Sashes segment in

Please refer the Sashes segment in the catalogue for further information on sash limits & hardware selection.

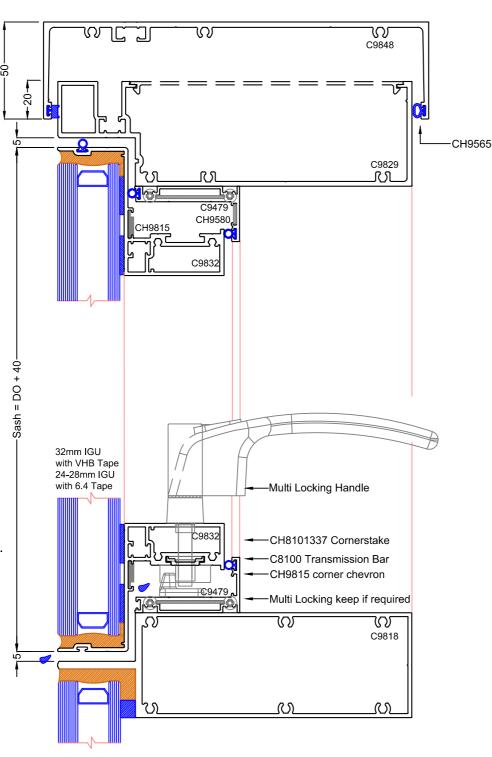
#### Multi locking Handle

An alternative means of operating awning windows, a handle drives multi locking points around the sash which increases weathertighness & resistance to negative windloads.

Its function is far superior to conventional cam handles. One handle only is required per Sash & is fitted on the bottom rail of awning Sashes & at an appropriate height on a Sash stile on casements.

Fitting of flyscreens become difficult however & would

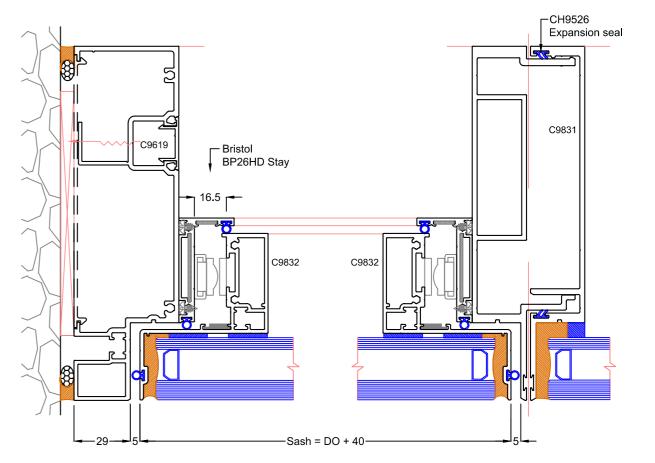
Fitting of flyscreens become difficult however & would usually require a retractable screen.



#### **Structural Sash Detail**

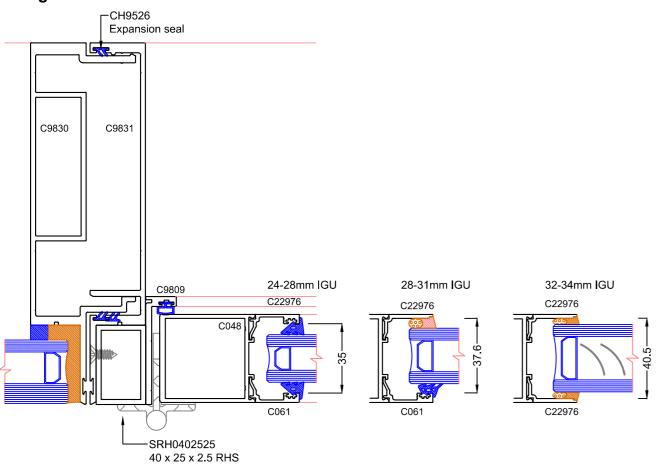
#### Standard Mullion (25mm Rebate)

Note that the HD Mullion is unsuitable to take the sash as it has a 32mm Rebate

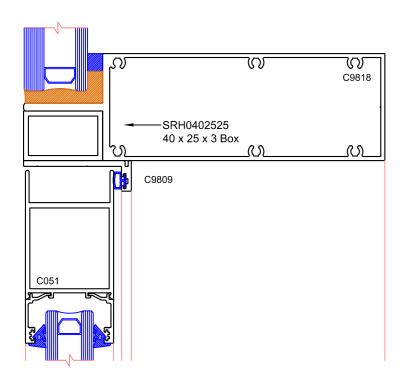




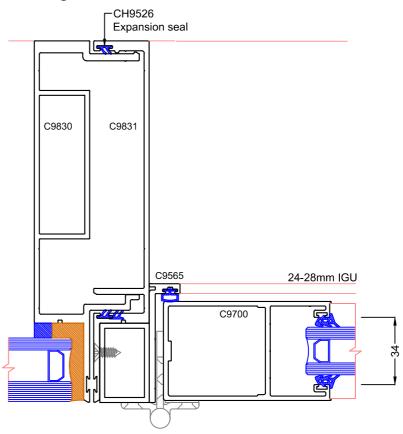
#### Hinged Door Detail - 45mm Beaded Door



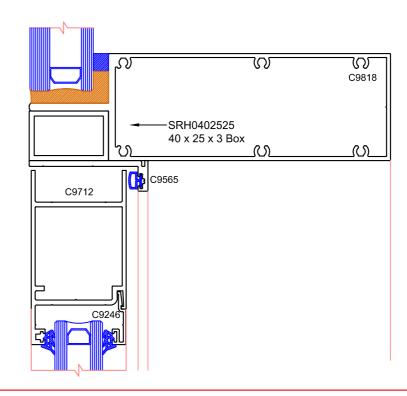
#### 45mm Beaded Door - Head or Transom Detail



#### Hinged Door Detail - Max 50mm Pocketed Door



#### Max 50mm Pocketed Door - Head or Transom Detail



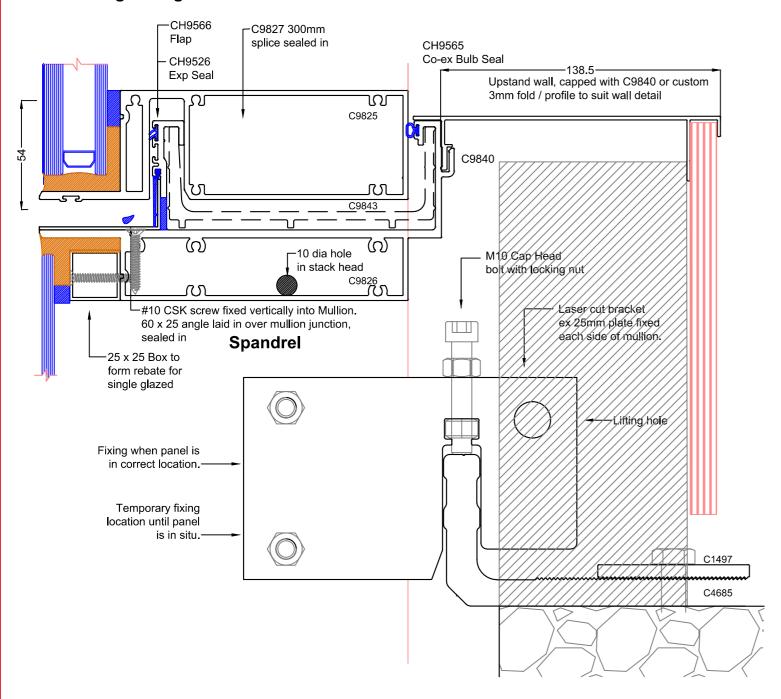


#### **Stack Joint Mullion Bracketing**

Offering a larger range of stack joint movement than the standard & simplified square cut verticals.

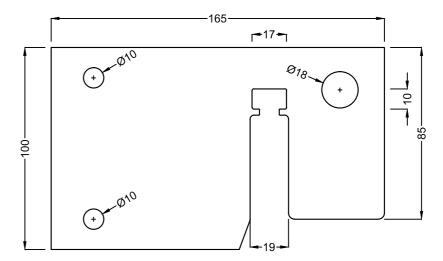
Bracketing methods can vary considerably & the details below are suggestions only of typical methods that can be adopted. Fixings should not be within 75mm of slab edge. The location of fixings, bracket size, location & size & grade of fixings must be determined by a suitably qualified engineer.

#### **Bracketing through side of Mullion**



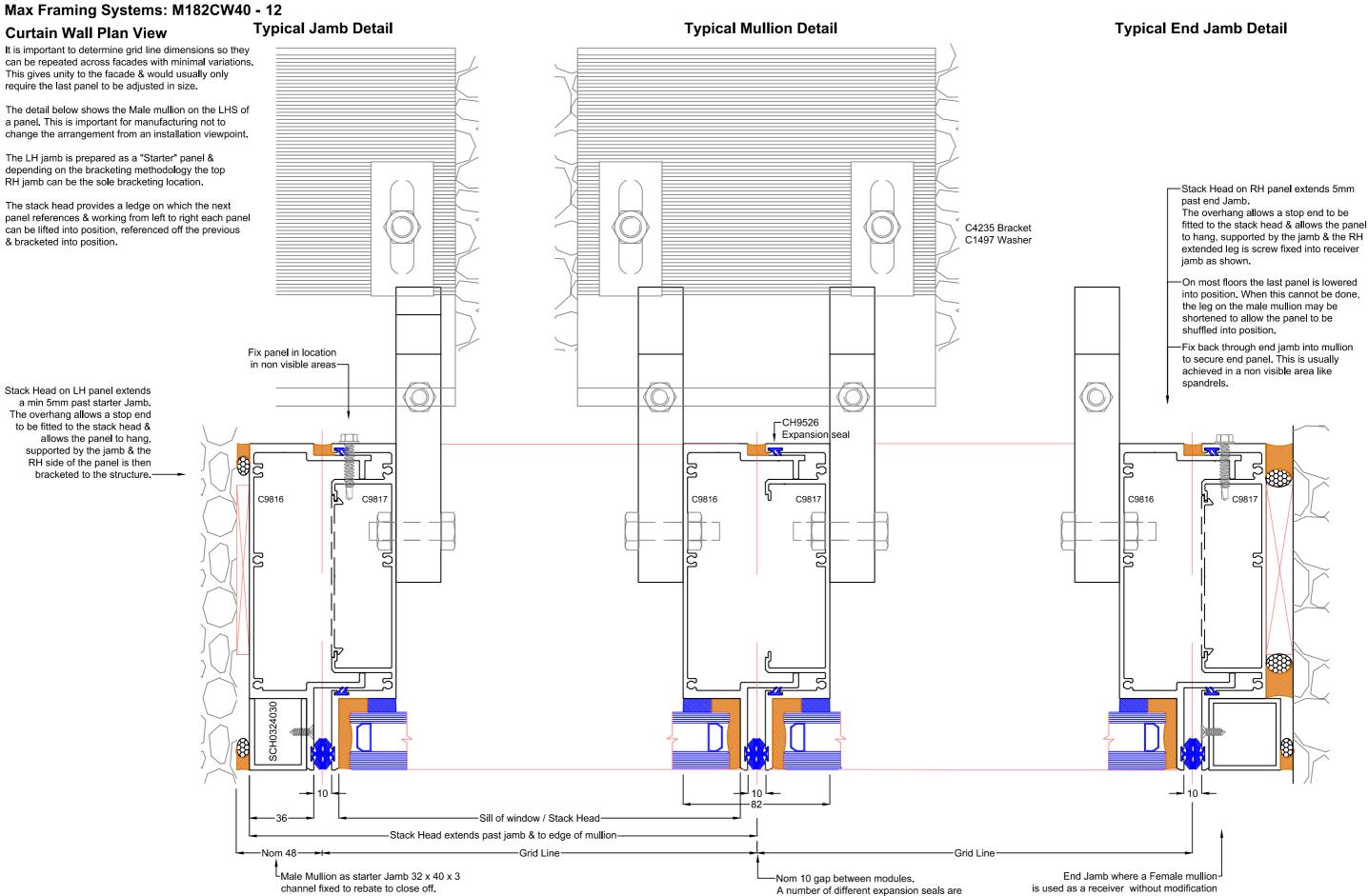
#### **Suggested Bracket details**

Bracket size, design, fixing sizes are subject to engineer verification. Brackets can be accurately waterjet cut from 25mm aluminium plate.





### Max Framing Systems: M182CW40 - 12



available dependant on resulting gap.

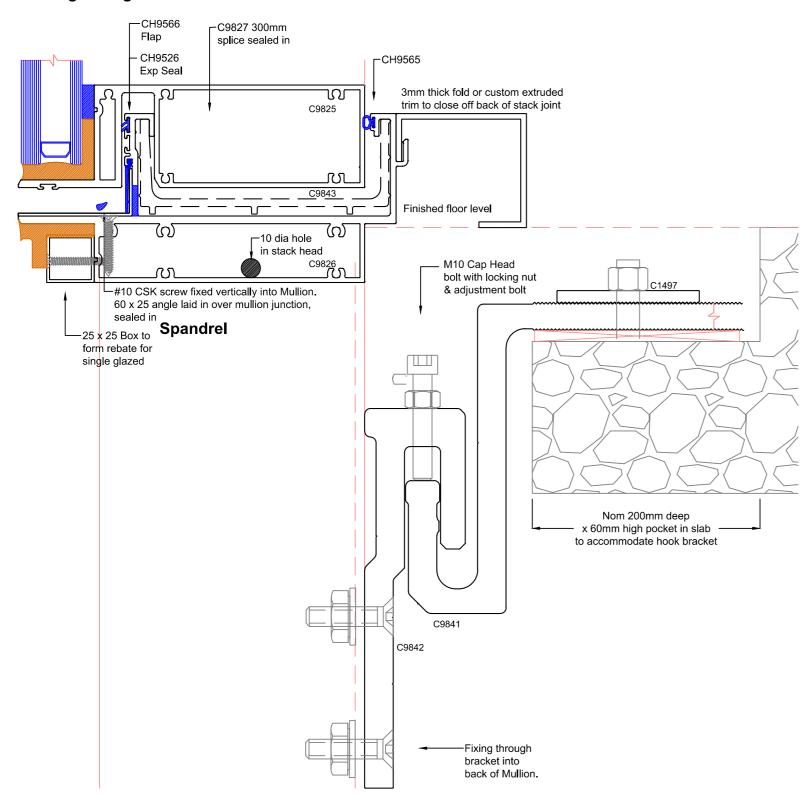


#### Unitised Curtain Wall & HD Stack Joint - back fixed bracket

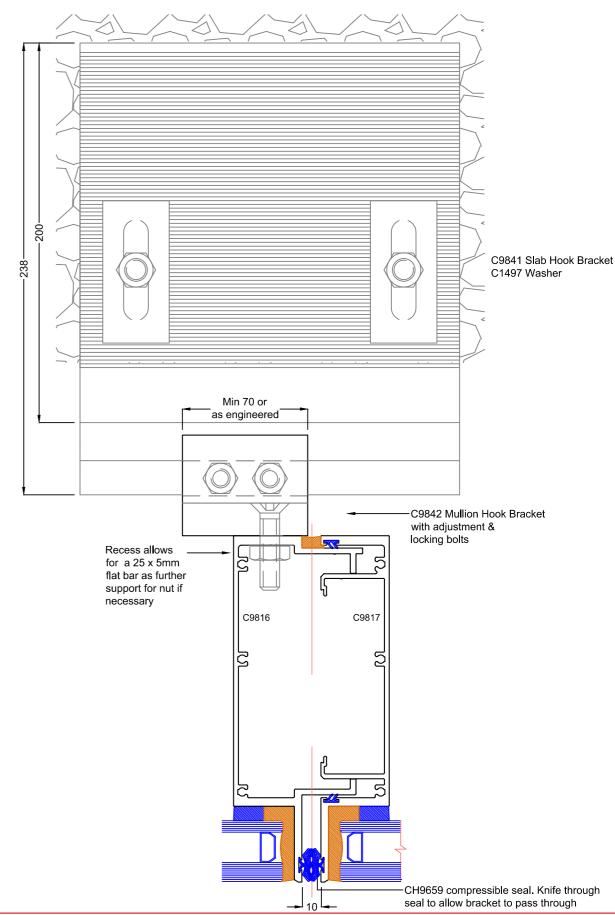
This bracketing method works on the HD Split Mullions where it can be bolted through the back of the mullion.

Stack joints provide vertical movement within the curtain wall & can differ each project. It is important to confirm the engineered slab deflection / movement in the system before deciding if this assembly is suitable.

#### **Bracketing through side of Mullion**

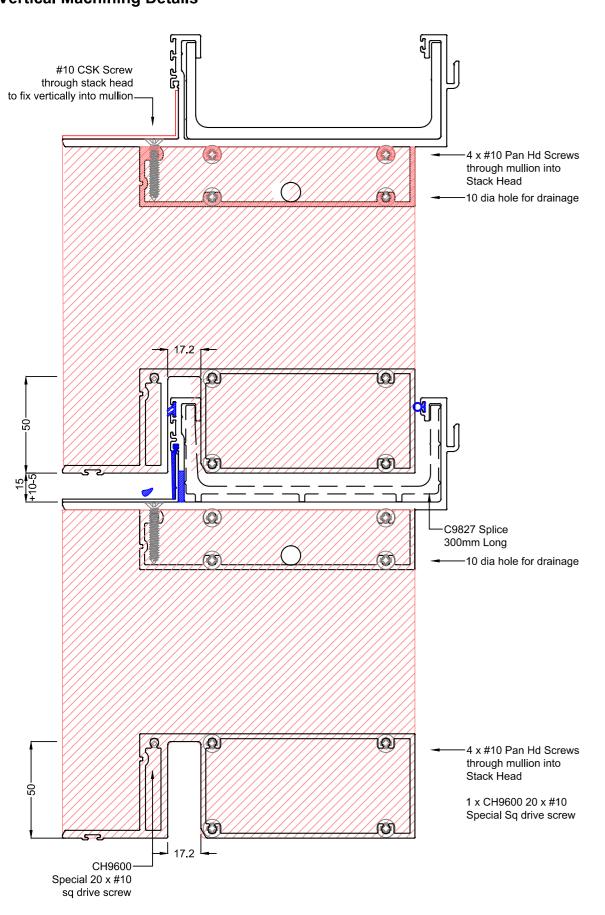


#### **Typical Mullion Detail**

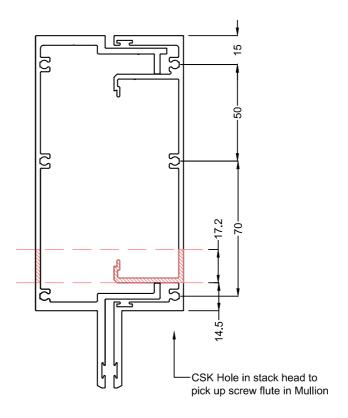




#### Max<sup>™</sup>182 STRUCTURAL GLAZED FRAMING & CURTAIN WALL - 40mm Rebate Max Framing Systems: M182CW40 - 14 **Vertical Machining Details**

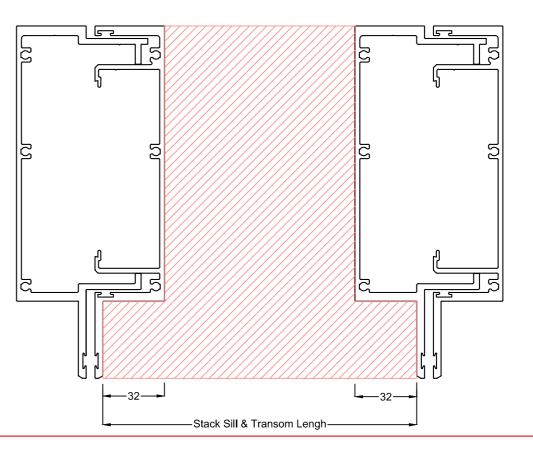


## **Vertical Machining Details**Slot through bottom of mullion



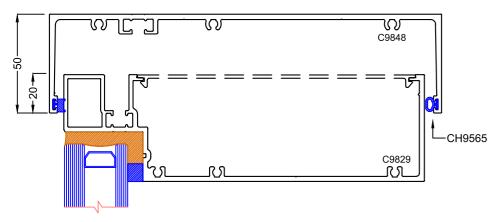
#### **Horizontal Machining Details**

Stack Sill & Transom Back notch through all horizontals

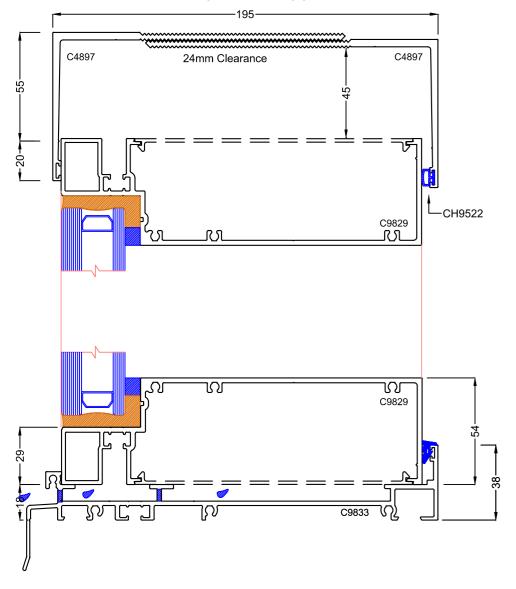




50mm One Piece Sub Head

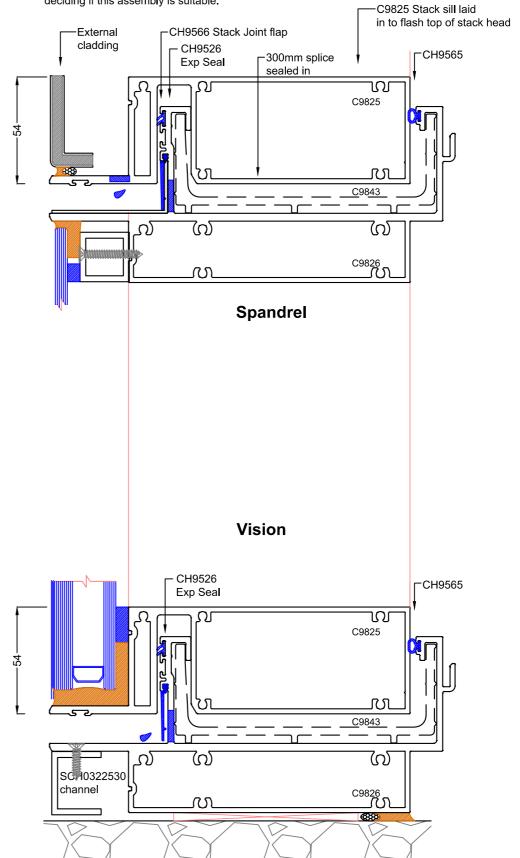


#### 75mm 2 Part Sub Head (Self Mating)



#### Unitised Curtain Wall & Soffit & Sill detail

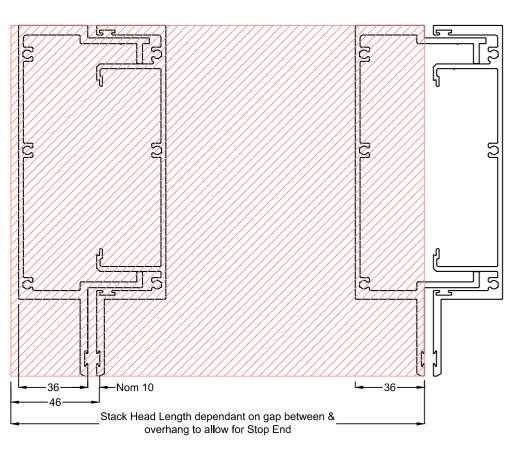
Stack joints provide vertical movement within the curtain wall & can differ each project. It is important to confirm the engineered slab deflection / movement in the system before deciding if this assembly is suitable.



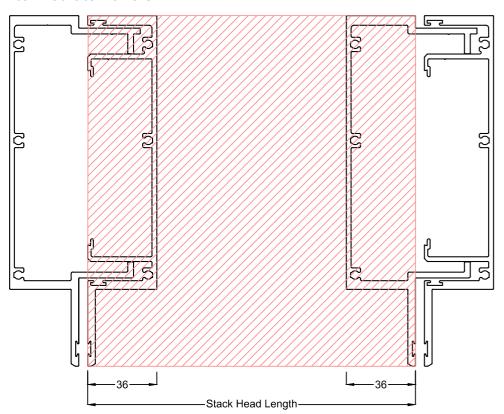


#### **Horizontal Machining Details**

Starter & End Panels

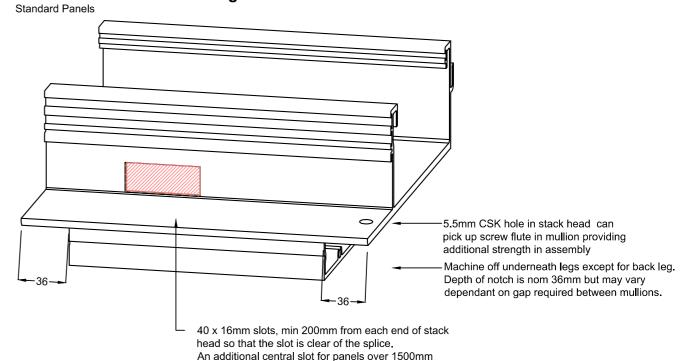


#### **Horizontal Machining Details Intermediate Panels**



Stack Joint Machining Details
Machining is based on the use of C9816, C9817 mullion extrusions which have a 40 x 32mm rebate. Note that frame extrusions C9828, C9829 have 40 x 25mm & machining changes accordingly

#### **C9826 Stack Head Machining**

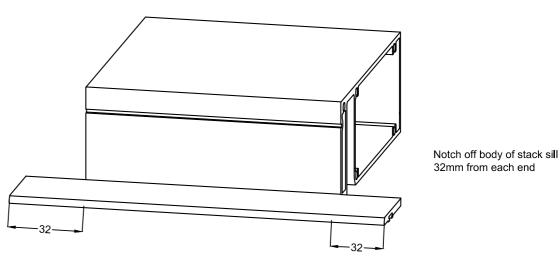


Slots may also provide a point where panels may need

to be ratcheted to shift panels into place.

#### **C9825 Stack Sill Machining**

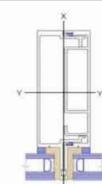
Standard Panels





# Max<sup>™</sup>182 STRUCTURAL GLAZED FRAMING & CURTAIN WALL - 40mm Rebate Max Framing Systems: M182CW40 - 17 Mullion Structural Tables

#### Mullion Combination: SG182 Structural Mullion C9830/C9831



These tables use theoretical section properties. The resulting Serviceability and Ultimate should be read in conjunction with the requirements of AS1170.

Note the following:

- Maximum Stress = 110Mpa
- Serviceability based on Span/250
- Italics indicate where Serviceability is limited by Ulltimate.

This chart is to be used as a guide only. Where Serviceability exceeds 3kPa or for more information, contact Capral.

Frame Height (mm)		Design Wind Pressure (Pa)								
2200	S	12282	10088	8689	7756	7127	6717	6482	404	
2200	U	12282	10088	8689	7756	7127	6717	6482	6404	
2400	S	10185	8328	7133	6321	5757	5365	5105	4954	
	U	10185	8328	7133	6321	5757	5365	5105	4954	
2600	S	8580	6992	5963	5256	4755	4395	4140	3969	
	U	8580	6992	5963	5256	4755	4395	4140	3969	
2800	S	7324	5953	5060	4442	3998	3673	3434	3262	
	U	7324	5953	5060	4442	3998	0.3673	3434	3262	
3000	S	6323	5129	4347	3804	3410	3118	2999	2735	
	U	6323	5129	4347	3804	3410	3118	2899	2735	
3200	S	5502	4463	3775	3295	2944	2682	2482	2330	
	U	5512	4463	3775	3295	2944	2682	2482	2330	
3400	S	4574	3706	3136	2739	2449	2231	2065	1937	
	U	4847	3919	3309	2881	2568	2332	2151	2010	
3600	S	3844	3110	2628	2290	2042	1856	1712	1600	
	U	4293	3467	2923	2541	2260	2047	1883	1754	
2222	s	3262	2636	2224	1934	1722	1561	1436	1339	
3800	U	3828	3088	2601	2257	2004	1812	1662	1544	
4000	s	2792	2254	1899	1650	1466	1326	1218	1132	
4000	U	3433	2768	2328	2018	1789	1614	1478	1370	
4000	s	2408	1942	1635	1418	1258	1137	1042	966	
4200	U	3096	2494	2096	1815	1607	1448	1323	1224	
4400	s	2091	1686	1418	1229	1089	982	898	832	
4400	U	2805	2258	18%	1640	1451	1306	1192	1100	
4600	s	1828	1473	1238	1071	948	854	780	721	
4600	U	2552	2054	1723	1490	1316	1183	1079	995	
4800	s	1608	1294	1087	940	831	748	682	630	
	U	2332	1875	1573	1359	1200	1077	981	903	
5000	S	1421	1143	960	830	733	659	600		
3000	U	2138	1719	1441	1244	1097	985	896		
Mullion Centres (mm)		800	1000	1200	1400	1600	1800	2000	2200	

Note: These charts are based on single span mullions only.

If double equal span mullions are being used, spans will be significantly stronger but must be verified by a structural engineer.

#### **Mullion Structural Tables**

#### Mullion Combination: Max 200-40 Pocket Struct C9816 C9817



These tables use theoretical section properties. The resulting Serviceability and Ultimate should be read in conjunction with the requirements of AS1170.

Note the following:

- Maximum Stress = 110Mpa
- Serviceability based on Span/250
- Italics indicate where Serviceability is limited by Ulltimate.

This chart is to be used as a guide only. Where Serviceability exceeds 3kPa or for more information, contact Capral.

Frame Height (mm)		Design Wind Pressure (Pa)								
2200	S	18202	14950	12877	11495	10562	9955	9606	9491	
2200	U	18202	14950	12877	11495	10562	9955	9606	9491	
2400	S	15183	12415	10633	9424	8582	7998	7610	7385	
2400	U	15183	12415	10633	9424	8582	7998	7610	7385	
2600	S	12093	9855	8404	7408	6702	6195	5836	5594	
2000	U	12093	9855	8404	7408	6702	6195	5836	5594	
2000	S	10275	8376	7143	6295	5690	5251	4932	4706	
2800	U	10368	8427	7163	6287	5659	5199	4861	4618	
3000	S	8318	6764	5751	5049	4544	4172	3895	3691	
3000	U	8989	7291	6180	5407	4848	4432	4121	3888	
2200	s	6830	5543	4701	4115	3690	3374	3135	2954	
3200	U	7868	6371	5389	4703	4202	3828	3543	3326	
3400	S	5678	4600	3894	3400	3040	2770	2564	2405	
3400	U	6945	5616	4742	4129	3680	3342	3082	2881	
3600	S	4772	3861	3262	2842	2535	2304	2125	1987	
3000	U	6176	4988	4205	3655	3251	2945	2708	2523	
3800	S	4049	3272	2761	2401	2138	1938	1783	1662	
3600	U	5528	4460	3756	3260	2894	2616	2400	2230	
4000	S	3465	2798	2358	2048	1820	1646	1511	1405	
4000	U	4977	4012	3375	2925	2593	2340	2143	1986	
4200	S	2989	2411	2030	1761	1562	1411	1293	1199	
4200	U	4504	3628	3049	2640	2338	2106	1925	1781	
4400	S	2596	2093	1760	1525	1352	1219	1115	1032	
4400	U	4095	3297	2769	2395	2118	1906	1740	1607	
4600	S	2270	1828	1536	1330	1177	1061	969	895	
4000	U	3740	3009	2525	2183	1929	1734	1580	1457	
4800	S	1996	1607	1349	1167	1032	929	847	782	
4000	U	3429	2757	2313	1998	1764	1584	1442	1328	
5000	S	1764	1419	1191	1030	910	818	745	687	
5000	U	3155	2536	2126	1835	1619	1453	1322	1216	
Mullion C (mn		800	1000	1200	1400	1600	1800	2000	2200	

Note: These charts are based on single span mullions only.

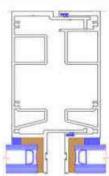
If double equal span mullions are being used, spans will be significantly stronger but must be verified by a structural engineer.



# Max<sup>™</sup>182 STRUCTURAL GLAZED FRAMING & CURTAIN WALL - 40mm Rebate Max Framing Systems: M182CW40 - 18 Mullion Structural Tables

#### Mullion Combination: SG182 Sh

#### SG182 Shadescreen Mullion (C9844, C9845)



These tables use theoretical section properties. The resulting Serviceability and Ultimate should be read in conjunction with the requirements of AS1170.

#### Note the following:

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- Serviceability based on Span/250
- Italics indicate where Serviceability is limited by Ulltimate.

This chart is to be used as a guide only. Where Serviceability exceeds 3kPa or for more information, contact Capral.

Frame Height (mm)		Design Wind Pressure (Pa)								
	s	18607	15282	13163	11750	10797	10176	9820	9702	
2200	U	18607	15282	13163	11750	10797	10176	9820	9702	
2400	S	15453	12636	10823	9591	8734	8140	7745	7517	
	U	15453	12636	10823	9591	8734	8140	7745	7517	
0000	S	13038	10625	9061	7987	7226	6679	6292	6031	
2600	U	13038	10625	9061	7987	7226	6679	6292	6031	
2800	S	11147	9060	7701	6760	6084	5589	5226	4965	
	U	11147	9060	7701	6760	6084	5589	5226	4965	
3000	S	9638	7817	6626	5798	5197	4752	4418	4169	
	U	9638	7817	6626	5798	5197	4752	4418	4169	
2000	S	8153	6616	5612	4912	4405	4027	3742	3526	
3200	U	8414	6813	5763	5029	4494	4093	3789	3556	
2.122	S	6778	5491	4648	4058	3629	3306	3060	2871	
3400	U	7408	5990	5057	4404	3925	3565	3288	3073	
3600	S	5696	4608	3894	3393	3026	2750	2537	2372	
3000	U	6570	5306	4474	3889	3459	3133	2881	2684	
3800	S	4833	3906	3295	2867	2552	2313	2128	1984	
3600	U	5866	4733	3986	3459	3071	2776	2547	2366	
4000	S	4137	3340	2814	2444	2172	1965	1804	1677	
4000	U	5269	4247	3573	3097	2746	2478	2268	2102	
4200	S	3568	2878	2423	2102	1865	1684	1543	1432	
4200	U	4757	3832	3220	2789	2469	2225	2033	1881	
4400	S	3099	2498	2101	1821	1613	1455	1331	1232	
4400	U	431.5	3474	2917	2524	2232	2009	1833	1693	
4600	S	2709	2182	1834	1588	1405	1266	1156	1069	
4000	U	3932	3164	2655	2295	2028	1823	1662	1532	
4800	S	2382	1918	1611	1393	1232	1108	1011	933	
4000	U	3597	2892	2426	2096	1850	1662	1513	1393	
5000	S	2106	1694	1422	1229	1086	976	890	820	
3000	U	3302	2654	2225	1921	1695	1521	1383	1273	
Mullion Centres (mm)		800	1000	1200	1400	1600	1800	2000	2200	

Note: These charts are based on single span mullions only.

If double equal span mullions are being used, spans will be significantly stronger but must be verified by a structural engineer.

#### **Glazing Methodology**

It is possible to glaze the SG182 system in a number of ways - either as a site glazed or factory glazed system.

When factory glazed, panels are assembled as individual units (glass & frame bonded panels) in a controlled environment. This allows for proper surface preparation & tape application procedures to be maintained as well as implementation of quality & process control programs.

This product has been successfully been glazed using 3M™ VHB™ Structural Glazing Tape or traditional double sided tape & structural silicone.

If the outdoor temperature is below 15°C it is required that the assembled panels be kept in the warmer, controlled environment of the factory shop for 24 hours before exposing the panel to colder site temperatures.

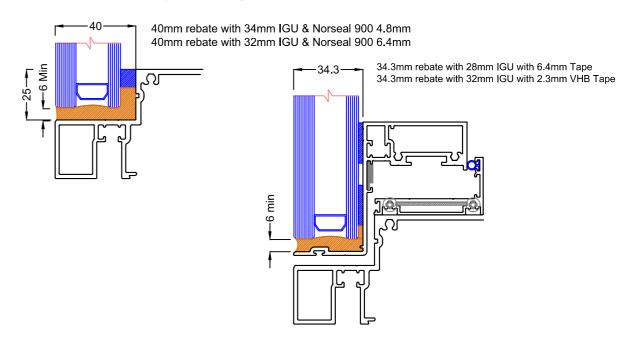
#### Note

The use of 4 sided structural glazing requires great attention to detail in the glazing of frames.

An instructional fabricators manual is available that gives an overview of both procedures however glazing methodology, glass cover & silicone bite should be referred to tape and silicone suppliers for suitability to the application.

#### **Glazing Method for Max SG182 Framing**

The following chart has been prepared to depict suggested tape combinations for U-Max Structural Glazed framing. Note that glass deduction sizes vary between glazing methods ie: structural silicone glazing & VHB tape. Note that the overall of frame & glass should be 150mm in combinations of IGU & tape as detailed below. This size is critical to the system operating within sub heads & sub sills as detailed.



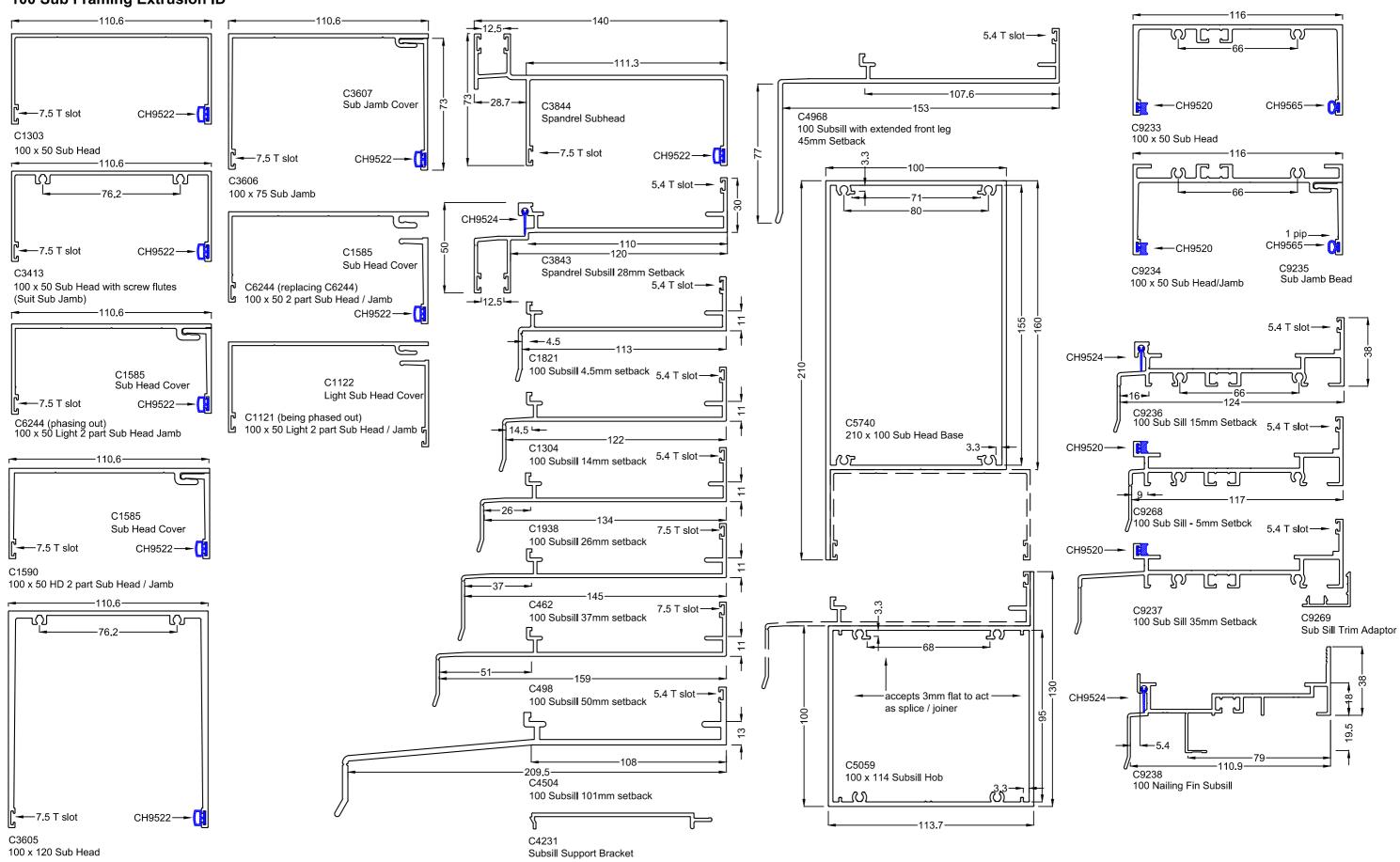
Glazed	Glass thickness	Example	Rebate Tape				
<u>8</u>	32mm	10/12/10	Norseal V900 Tape 12 x 6.4				
Structural	34mm	13.52/14/10	Norseal V900 Tape 12 x 4.8				
Stru	36mm	13.52/12/13.52	3M VHB Tape 18 x 2.3mm				
SG182	C9832 Structural Glazed Sash (34.5 Rebate)						
	28mm	10/12/6	Norseal V900 Tape 12 x 6.4				
Мах	32mm	10/12/10	3M VHB Tape 18 x 2.3mm				



### Max<sup>™</sup> SUB FRAMING

Max Framing Systems: Sub Framing - 1

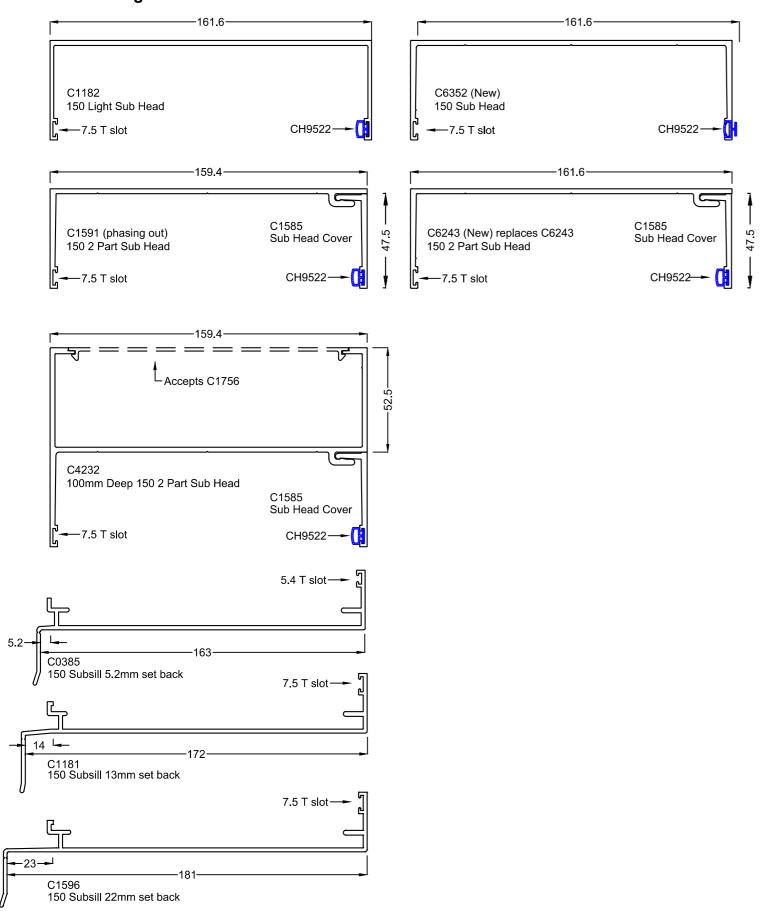
#### 100 Sub Framing Extrusion ID

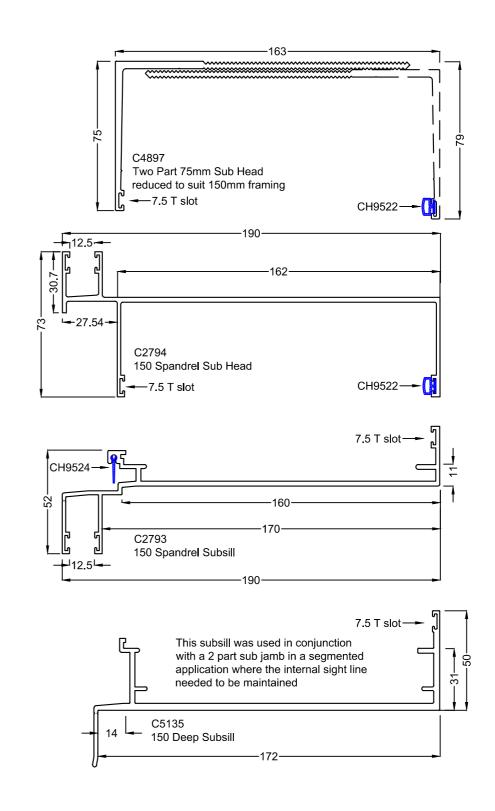


MAXTM



#### Max<sup>™</sup> SUB FRAMING Max Framing Systems: Sub Framing - 2 150 Sub Framing Extrusion ID





CH9565-

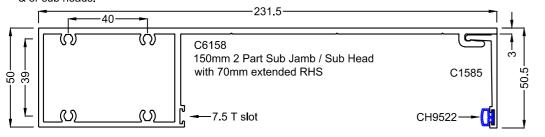


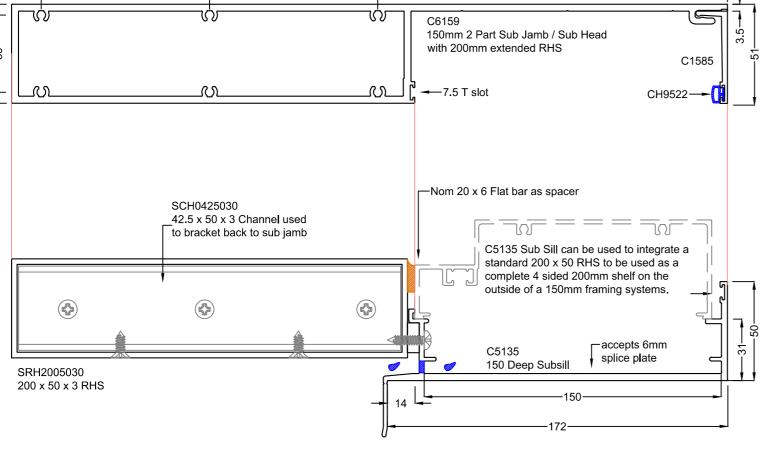
#### Max<sup>™</sup> SUB FRAMING

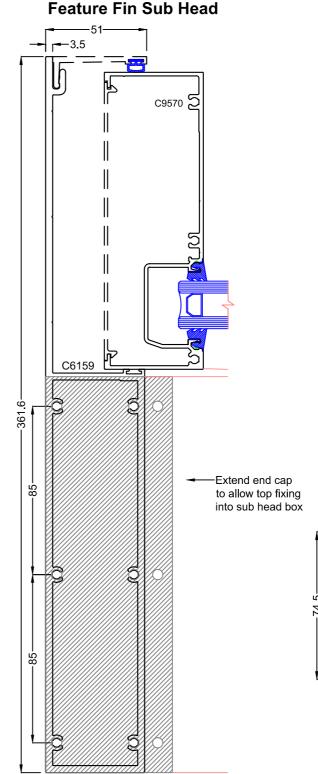
Max Framing Systems: Sub Framing - 3

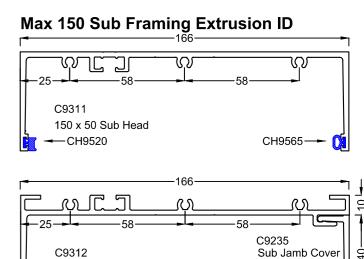
#### Feature Fin Sub Heads / Sub Jambs Extrusion ID

The following extrusions can for an external feature fin or shelf on the face of a frame & can be used as sub jambs

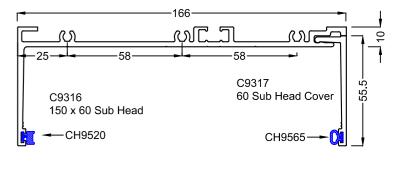


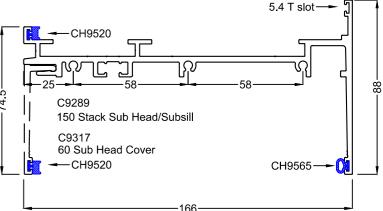






150 x 50 Sub Jamb





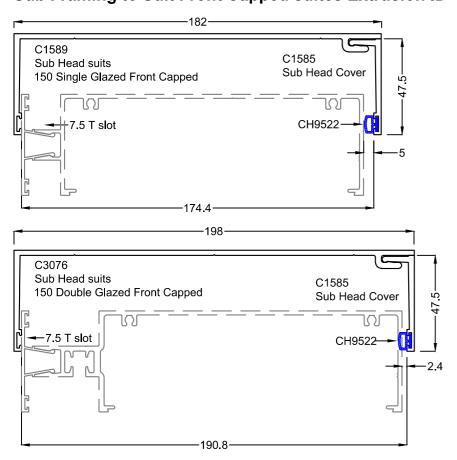


#### Max<sup>™</sup> SUB FRAMING Max Framing Systems: Sub Framing - 4 150 Sub Framing Extrusion ID **SG182 Sub Framing Extrusion ID** -CH9526 C4242 Two Part 180-250mm x 50mm Sub Head C5310 CH9522-150 Spandrel Infil Sub Head **←**CH9520 CH9565--165mm Deep One Piece Sub Head CH9524 5 C5637 Two Part 180-250mm x 75mm Sub Head Sub Head Infil C5308 -7.5 T slot 150 Spandrel Infil Subsill CH9522-CH9565-CH9520 -CH9526 5.4 T slot-C5309 C3076 Spandrel Infil Subsill Sub Head adapting to suit SG182 using bulb seal both sides C1585 CH9524-Sub Head Cover -Accepts CH9819 co-ex backing wedge CH9524-C9313 150 Sub Sill 15 Setback -CH9522 Co-Ex Bulb Seal 150 Glazed Spandrel Sub Head **└-16**--198.5· -CH9520 CH9565→ C9319 150 Sub Sill 25 Setback CH9520 C9848 SG182 Sub Head CH9524-CH9565 → 💢 -CH9520 حالک C9269 C9315 Sub Sill Trim Adaptor 150 Internal Install Sub Sill 150 Glazed Spandrel Subsill CH9524--16- C9833

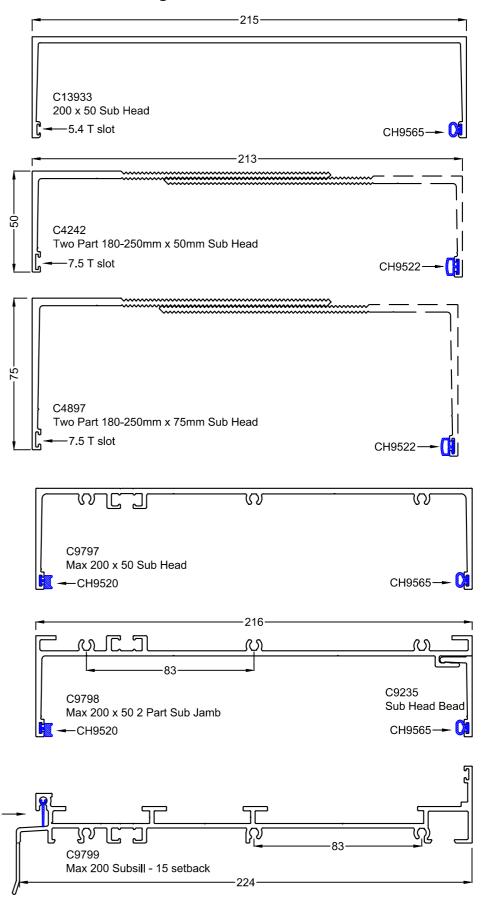
SG182 Sub Sill



# Max<sup>™</sup> SUB FRAMING Max Framing Systems: Sub Framing - 5 Sub Framing to Suit Front Capped suites Extrusion ID

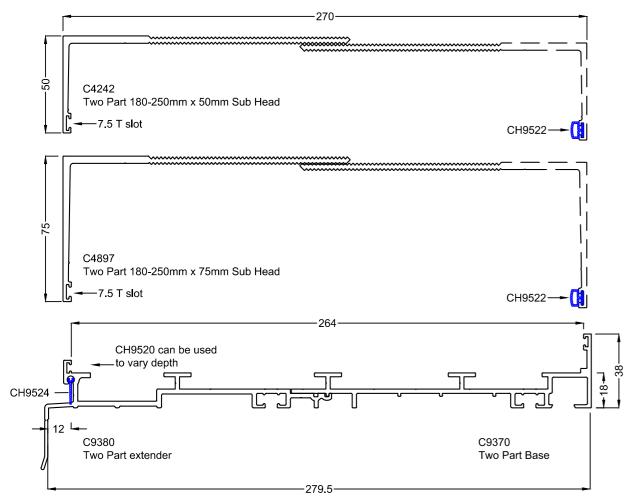


#### 200 Sub Framing Extrusion ID





#### Max<sup>™</sup> SUB FRAMING Max Framing Systems: Sub Framing - 6 **Extendable Sub Framing Extrusion ID**



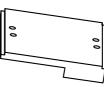
#### **Component ID**



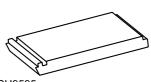
CHSE100 100 Subsill Stop end (non handed)



CH9570 Suit Max Subsills 100 Subsill Stop end (non handed)



CH9573 100 Nailing Fin Subsill end cap



CH9595 Max Subsill support block



CHSE100 150 Subsill Stop end (non handed)



Max 150 Subsill Stop end (non handed)



Co-Ex, SANT

CH9524

CH9565 SubFrame Seal 5.4 T slot, 4mm gap Co-Ex, SANT

OI

Co-Ex Sub Sill Flap Expansion Seal SANT

CH9526



CH9500

CH9522 APRENE 5.4 T slot, 3mm gap



(H









