

CUSTOM TECHNICAL MEMO # 170

ECOWALL 225 – New Dies:

Subject: ECO121 150mm Ext Glaze Transom, ECO124 & ECO125 Heavy Duty Splices

Date: 1/5/13

From: Vince Ravese

Good morning all,

Please refer below for new extrusions available for our ecoWALL225 suite.

ECO121 150MM TRANSOM

New Die –150mm transom option to suit jobs which do not have extreme wind or glass loads

ECO124 MALE SPLICE

New Die – Splice (Slides into ECO104 Mullion)

ECO124 FE MALE SPLICE

New Die –Splice (fits within ECO124 Splice)

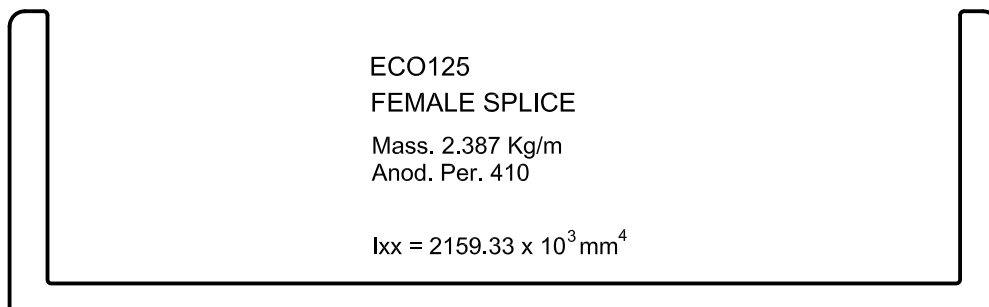
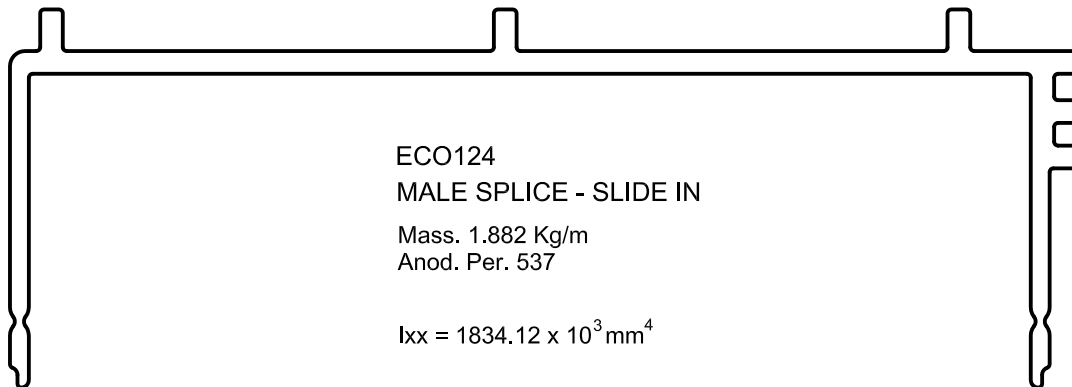
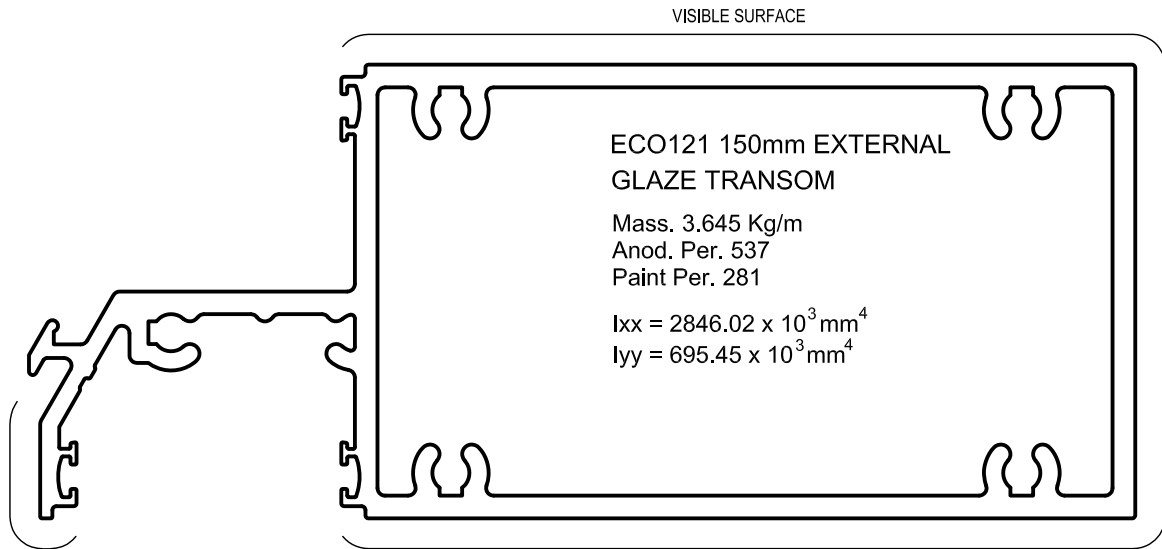
Wind Pressure charts have been attached for the entire range of Mullion and transom options in the system.

If you have any questions please do not hesitate to contact your local Area Manager or Sales Office.

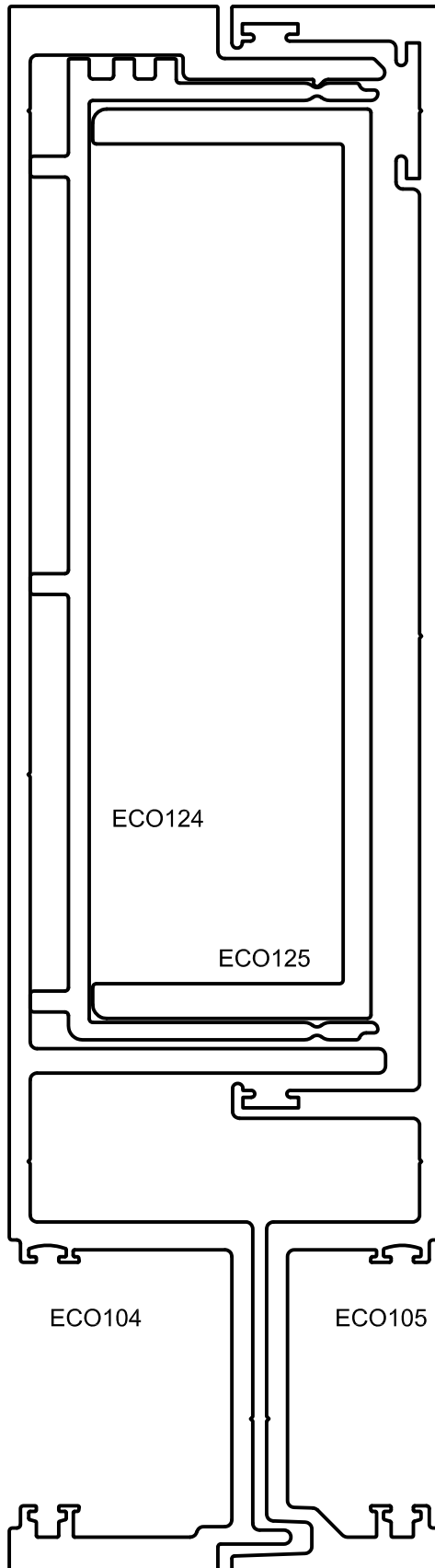
Kind Regards,

Vince Ravese
Product Development

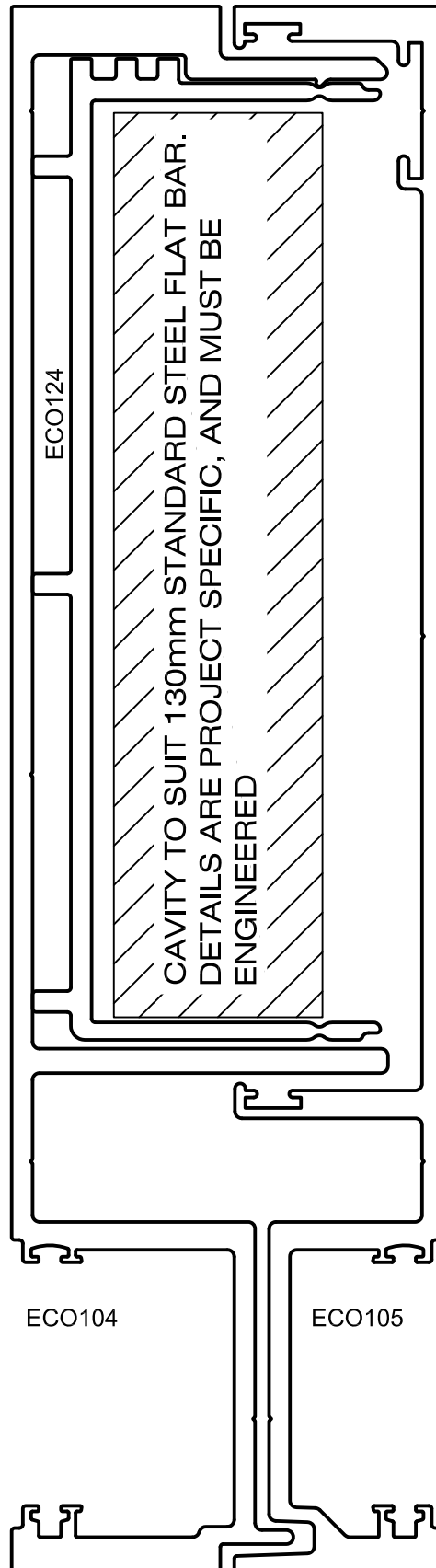
Extrusions

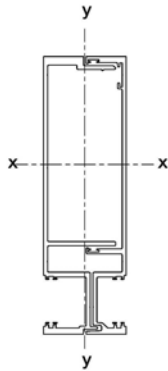


Splice Assembly



Steel insert option





L/250

ECO104 + ECO105 MULLIONS

$I_{xx} = 15504 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa

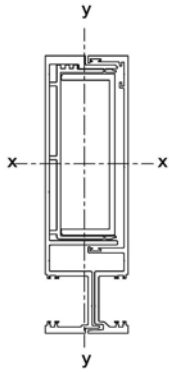
S = Serviceability limit state l/250

U = Ultimate limit state

Panel Height	Maximum Design Pressure (Pa)										
		600	800	1000	1200	1400	1600	1800	2000	2200	2400
6200	S	2300	1730	1390	1160	1000	880	790	710	650	610
	U	5110	3840	3080	2580	2220	1950	1750	1580	1450	1340
6000	S	2540	1910	1530	1280	1110	970	870	790	730	670
	U	5460	4110	3300	2760	2370	2090	1870	1690	1550	1430
5800	S	2810	2120	1700	1420	1230	1080	970	880	810	750
	U	5850	4400	3530	2950	2540	2240	2000	1820	1670	1540
5600	S	3000	2350	1890	1580	1370	1200	1080	980	900	840
	U	6270	4720	3790	3170	2730	2410	2150	1960	1790	1660
5400	S	3000	2630	2110	1770	1530	1350	1210	1100	1010	940
	U	6750	5080	4080	3420	2940	2590	2320	2110	1940	1800
5200	S	3000	2940	2370	1980	1710	1510	1360	1240	1140	1060
	U	7280	5480	4400	3690	3180	2800	2510	2280	2100	1950
5000	S	3000	3000	2670	2240	1930	1710	1530	1400	1290	1200
	U	7880	5930	4770	4000	3450	3040	2730	2480	2280	2120
4800	S	3000	3000	3000	2530	2190	1940	1740	1590	1470	1370
	U	8550	6440	5180	4340	3750	3310	2970	2710	2490	2320
4600	S	3000	3000	3000	2890	2500	2210	1990	1820	1680	1570
	U	9000	7020	5650	4740	4090	3620	3250	2960	2730	2540
4400	S	3000	3000	3000	3000	2870	2540	2290	2090	1940	1810
	U	9000	7680	6180	5190	4490	3970	3570	3260	3010	2810
4200	S	3000	3000	3000	3000	3000	2940	2650	2430	2250	2110
	U	9000	8440	6800	5710	4940	4380	3940	3600	3330	3110
4000	S	3000	3000	3000	3000	3000	3000	3000	2840	2640	2480
	U	9000	9000	7510	6320	5470	4850	4380	4010	3710	3480
3800	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	2940
	U	9000	9000	8340	7020	6090	5410	4890	4490	4170	3910
3600	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	7850	6830	6070	5500	5060	4710	4440
3400	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	8850	7700	6870	6230	5750	5370	5080
3200	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	8770	7830	7130	6600	6200	5890
Panel Crs		600	800	1000	1200	1400	1600	1800	2000	2200	2400

This table is based on theoretical section properties

Special Note: The above pressures have been calculated on the assumption that the torsion of the split mullions will be controlled by the use of intermediate transoms. Should transoms not be used then it is recommended that torsional analysis be carried out.



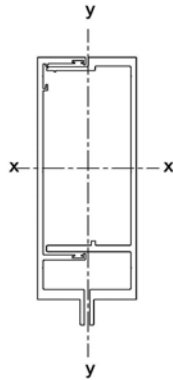
ECO104 + ECO105 MULLIONS / ECO124 + ECO125 SPLICES
$I_{xx} = 19497 \times 10^3 \text{ mm}^4$
Max Stress = 110 Mpa
S = Serviceability limit state 1/250
U = Ultimate limit state

L/250

Panel Height	Maximum Design Pressure (Pa)										
		600	800	1000	1200	1400	1600	1800	2000	2200	2400
6200	S	2900	2180	1750	1460	1260	1110	990	900	820	760
	U	6430	4840	3880	3240	2790	2460	2200	1990	1820	1680
6000	S	3000	2400	1930	1620	1390	1230	1100	1000	910	850
	U	6870	5170	4150	3470	2990	2630	2350	2130	1950	1800
5800	S	3000	2660	2140	1790	1540	1360	1220	1110	1020	940
	U	7350	5530	4440	3710	3200	2820	2520	2290	2100	1940
5600	S	3000	2960	2380	1990	1720	1520	1360	1230	1130	1050
	U	7890	5940	4770	3990	3440	3030	2710	2460	2260	2090
5400	S	3000	3000	2660	2230	1920	1690	1520	1380	1270	1180
	U	8490	6390	5130	4300	3700	3260	2920	2650	2440	2260
5200	S	3000	3000	2980	2500	2160	1900	1710	1560	1430	1330
	U	9000	6890	5540	4640	4000	3530	3160	2870	2640	2450
5000	S	3000	3000	3000	2810	2430	2150	1930	1760	1620	1510
	U	9000	7460	6000	5030	4340	3830	3430	3120	2870	2670
4800	S	3000	3000	3000	3000	2760	2440	2190	2000	1850	1720
	U	9000	8100	6510	5460	4720	4160	3740	3400	3140	2920
4600	S	3000	3000	3000	3000	3000	2780	2510	2290	2110	1970
	U	9000	8830	7100	5960	5150	4550	4090	3730	3440	3200
4400	S	3000	3000	3000	3000	3000	3000	2880	2630	2440	2280
	U	9000	9000	7770	6530	5650	4990	4490	4100	3790	3530
4200	S	3000	3000	3000	3000	3000	3000	3000	3000	2830	2660
	U	9000	9000	8550	7180	6220	5510	4960	4530	4190	3920
4000	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	7940	6880	6100	5510	5040	4670	4380
3800	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	8830	7660	6800	6150	5640	5240	4920
3600	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	8590	7640	6920	6360	5920	5580
3400	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	9000	8640	7840	7230	6760	6390
3200	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	9000	9000	8970	8300	7790	7410
Panel Crs		600	800	1000	1200	1400	1600	1800	2000	2200	2400

This table is based on theoretical section properties

Special Note: The above pressures have been calculated on the assumption that the torsion of the split mullions will be controlled by the use of intermediate transoms. Should transoms not be used then it is recommended that torsional analysis be carried out.



ECO116 + ECO117 STRUCTURALLY GLAZED MULLIONS

$I_{xx} = 14872 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa

S = Serviceability limit state I/250

U = Ultimate limit state

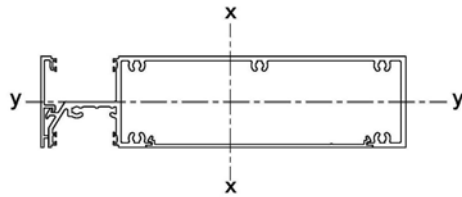
L/250

Panel Height	Maximum Design Pressure (Pa)										
		600	800	1000	1200	1400	1600	1800	2000	2200	2400
6200	S	2210	1660	1330	1110	960	840	760	680	630	580
	U	5360	4030	3230	2700	2330	2050	1830	1660	1520	1400
6000	S	2440	1830	1470	1230	1060	930	840	760	700	640
	U	5730	4300	3450	2890	2490	2190	1960	1770	1630	1500
5800	S	2700	2030	1630	1360	1180	1040	930	840	770	720
	U	6130	4610	3700	3100	2670	2350	2100	1900	1750	1620
5600	S	3000	2260	1810	1520	1310	1150	1030	940	860	800
	U	6580	4950	3970	3320	2860	2520	2260	2050	1880	1740
5400	S	3000	2520	2020	1700	1460	1290	1160	1050	970	900
	U	7070	5320	4270	3580	3090	2720	2440	2210	2030	1880
5200	S	3000	2820	2270	1900	1640	1450	1300	1190	1090	1010
	U	7630	5740	4610	3870	3330	2940	2630	2390	2200	2040
5000	S	3000	3000	2560	2150	1850	1640	1470	1340	1240	1150
	U	8260	6220	5000	4190	3610	3190	2860	2600	2390	2220
4800	S	3000	3000	2900	2430	2100	1860	1670	1520	1410	1310
	U	8970	6750	5430	4550	3930	3470	3120	2840	2610	2430
4600	S	3000	3000	3000	2770	2400	2120	1910	1740	1610	1500
	U	9000	7360	5920	4970	4290	3790	3410	3110	2860	2670
4400	S	3000	3000	3000	3000	2750	2440	2200	2010	1860	1740
	U	9000	8050	6480	5440	4710	4160	3740	3420	3150	2940
4200	S	3000	3000	3000	3000	3000	2820	2540	2330	2160	2020
	U	9000	8840	7120	5990	5180	4590	4130	3780	3490	3260
4000	S	3000	3000	3000	3000	3000	3000	2970	2720	2530	2380
	U	9000	9000	7870	6620	5740	5090	4590	4200	3890	3650
3800	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	2820
	U	9000	9000	8740	7360	6390	5670	5120	4700	4370	4100
3600	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	8230	7150	6360	5760	5300	4940	4650
3400	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	8070	7200	6530	6030	5630	5330
3200	S	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	U	9000	9000	9000	9000	9000	8210	7480	6920	6490	6170
Panel Crs		600	800	1000	1200	1400	1600	1800	2000	2200	2400

This table is based on theoretical section properties

Special Note: The above pressures have been calculated on the assumption that the torsion of the split mullions will be controlled by the use of intermediate transoms. Should transoms not be used then it is recommended that torsional analysis be carried out.

ECO101 + ECO102 + AS605 TRANSOM
$I_{xx} = 8258 \times 10^3 \text{ mm}^4$ $I_{yy} = 673 \times 10^3 \text{ mm}^4$
Max Stress = 110 Mpa S = Serviceability limit state l/250 U = Ultimate limit state



L/250

Transom Centres	Maximum Design Pressure (Pa)						
3000	S	3000	3000	3000			
	U	9000	9000	6900			
2800	S	3000	3000	3000			
	U	9000	9000	6950			
2600	S	3000	3000	3000			
	U	9000	9000	7000			
2400	S	3000	3000	3000			
	U	9000	9000	7040			
2200	S	3000	3000	3000			
	U	9000	9000	7120			
2000	S	3000	3000	3000			
	U	9000	9000	7330			
1800	S	3000	3000	3000			
	U	9000	9000	7710			
1600	S	3000	3000	3000			
	U	9000	9000	8270			
Length		2000	2200	2400	2600	2800	3000

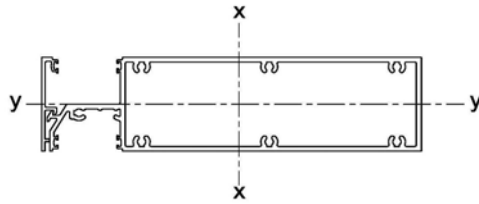
This table is based on theoretical section properties

Vertical deflection of Transom under the glass load

If the transom is loaded at the quarter points and the deflection is limited to 5mm the following maximum glass weights apply:-

Transom Length (mm)	Max Glass Weight (kg)
2000	205
2200	155
2400	120

ECO102 + ECO103 TRANSOM
$I_{xx} = 9091 \times 10^3 \text{ mm}^4$
$I_{yy} = 1104 \times 10^3 \text{ mm}^4$
Max Stress = 110 Mpa
S = Serviceability limit state l/250
U = Ultimate limit state



L/250

Transom Centres	Maximum Design Pressure (Pa)						
3000	S	3000	3000	3000	3000	3000	
	U	9000	9000	7250	5630	4590	
2800	S	3000	3000	7230	3000	3000	
	U	9000	9000	7350	5740	4690	
2600	S	3000	3000	3000	3000	3000	
	U	9000	9000	7400	5860	4720	
2400	S	3000	3000	3000	3000	3000	
	U	9000	9000	7450	5910	4830	
2200	S	3000	3000	3000	3000	3000	
	U	9000	9000	7530	6060	5010	
2000	S	3000	3000	3000	3000	3000	
	U	9000	9000	7750	6320	5270	
1800	S	3000	3000	3000	3000	3000	
	U	9000	9000	8150	6710	5640	
1600	S	3000	3000	3000	3000	3000	
	U	9000	9000	8750	7260	6140	
Length		2000	2200	2400	2600	2800	3000

This table is based on theoretical section properties

Vertical deflection of Transom under the glass load

If the transom is loaded at the quarter points and the deflection is limited to 5mm the following maximum glass weights apply:-

Transom Length (mm)	Max Glass Weight (kg)
2000	300
2200	250
2400	195
2600	150
2800	120

ECO119 + EC0120 INT GLAZE TRANSOM

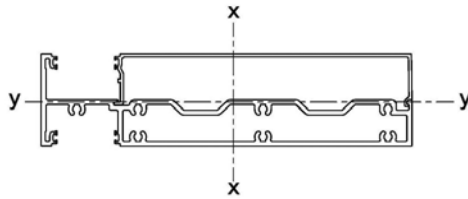
$I_{xx} = 9669 \times 10^3 \text{ mm}^4$

$I_{yy} = 356 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa

S = Serviceability limit state l/250

U = Ultimate limit state



L/250

Transom Centres	Maximum Design Pressure (Pa)						
2400	S	3000	3000	3000	3000		
	U	9000	9000	9000	9000		
2200	S	3000	3000	3000	3000		
	U	9000	9000	9000	9000		
2000	S	3000	3000	3000	3000		
	U	9000	9000	9000	9000		
1800	S	3000	3000	3000	3000		
	U	9000	9000	9000	9000		
1600	S	3000	3000	3000	3000	3000	
	U	9000	9000	9000	9000	9000	
1400	S	3000	3000	3000	3000	3000	
	U	9000	9000	9000	9000	9000	
1200	S	3000	3000	3000	3000	3000	
	U	9000	9000	9000	9000	9000	
1000	S	3000	3000	3000	3000	3000	
	U	9000	9000	9000	9000	9000	
Length		1600	1800	2000	2200	2400	2600

This table is based on theoretical section properties

Vertical deflection of Transom under the glass load

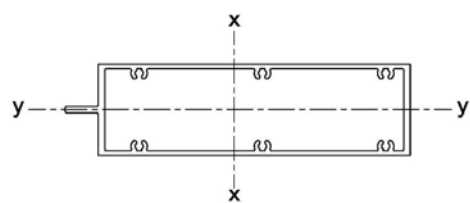
If the transom is loaded at the quarter points and the deflection is limited to 5mm the following maximum glass weights apply:-

Transom Length (mm)	Max Glass Weight (kg)
1600	210
1800	150
2000	110
2200	80
2400	60

ECO122 STRUCTURAL GLAZE TRANSOM

$I_{xx} = 8994 \times 10^3 \text{ mm}^4$
 $I_{yy} = 1163 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa
S = Serviceability limit state l/250
U = Ultimate limit state



L/250

Transom Centres	Maximum Design Pressure (Pa)						
3000	S	3000	3000	3000	3000	3000	
	U	9000	9000	8540	6270	4870	
2800	S	3000	3000	3000	3000	3000	
	U	9000	9000	8030	6090	4830	
2600	S	3000	3000	3000	3000	3000	
	U	9000	9000	7760	6040	4870	
2400	S	3000	3000	3000	3000	3000	
	U	9000	9000	7680	6090	4980	
2200	S	3000	3000	3000	3000	3000	
	U	9000	9000	7760	6250	5160	
2000	S	3000	3000	3000	3000	3000	
	U	9000	9000	7990	6520	5440	
1800	S	3000	3000	3000	3000	3000	
	U	9000	9000	8400	6920	5810	
1600	S	3000	3000	3000	3000	3000	
	U	9000	9000	9000	7490	6330	
Length		2000	2200	2400	2600	2800	3000

This table is based on theoretical section properties

Vertical deflection of Transom under the glass load
 If the transom is loaded at the quarter points and the deflection is limited to 5mm the following maximum glass weights apply:-

Transom Length (mm)	Max Glass Weight (kg)
2000	320
2200	270
2400	205
2600	160
2800	130

ECO102 + ECO121 150mm EXT GLAZE TRANSOM

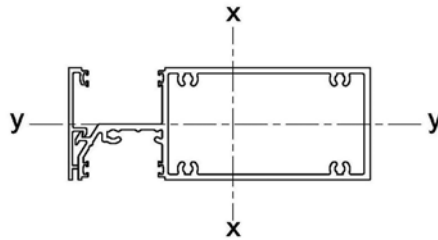
$I_{xx} = 2846 \times 10^3 \text{ mm}^4$

$I_{yy} = 695 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa

S = Serviceability limit state l/250

U = Ultimate limit state



L/250

Transom Centres	Maximum Design Pressure (Pa)						
2400	S	3000	3000	3000	3000	2800	2070
	U	9000	7570	5630	4280	3390	2690
2200	S	3000	3000	3000	3000	2860	2120
	U	9000	7730	5750	4370	3430	2760
2000	S	3000	3000	3000	3000	2940	2200
	U	9000	7880	5870	4460	3530	2880
1800	S	3000	3000	3000	3000	3000	2330
	U	9000	8050	5950	4620	3710	3060
1600	S	3000	3000	3000	3000	3000	2510
	U	9000	8200	6220	4910	3990	3310
1400	S	3000	3000	3000	3000	3000	2760
	U	9000	8650	6680	5340	4380	3660
1200	S	3000	3000	3000	3000	3000	3000
	U	9000	9000	7410	5980	4940	4150
1000	S	3000	3000	3000	3000	3000	3000
	U	9000	9000	8540	6950	5770	4870
Length		1600	1800	2000	2200	2400	2600

This table is based on theoretical section properties

Vertical deflection of Transom under the glass load

If the transom is loaded at the quarter points and the deflection is limited to 5mm the following maximum glass weights apply:-

Transom Length (mm)	Max Glass Weight (kg)
1600	320
1800	290
2000	210
2200	160
2400	120
2600	95