

TECHNICAL MEMO # 201

Subject: 50mm CYCLONIC HINGED DOORS

Date: 28/4/14

From: Product Development

This door has been developed for high wind pressure performance in regions C and D. In particular, buildings with high importance levels such as schools, hospitals, commercial, or any buildings which could be used as cyclone shelters.

Due to the high strength of the door stiles, they also suit to other applications where meeting stiles up to 3m high are required in commercial applications. Refer wind load chart for limitations.

Door has been tested to 3kPa SLS, 10kPa ULS.

Refer to the attached drawings for fabrication, hardware combinations, and more detailed test results.

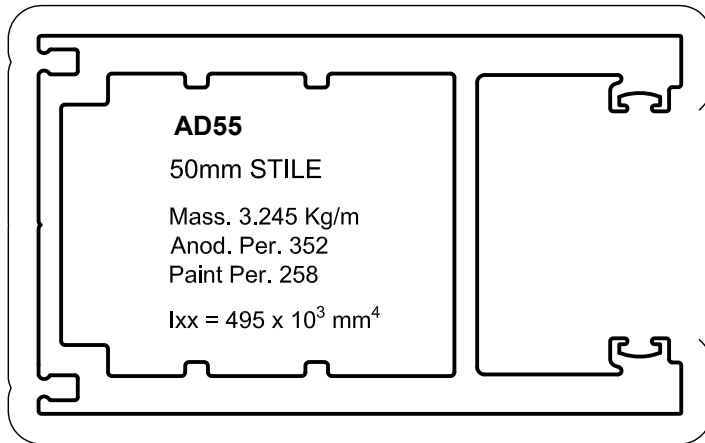
If you have any questions please contact you local area manager.

Regards,

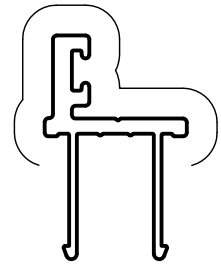
Product Development

Extrusions

VISIBLE SURFACES



VISIBLE SURFACES

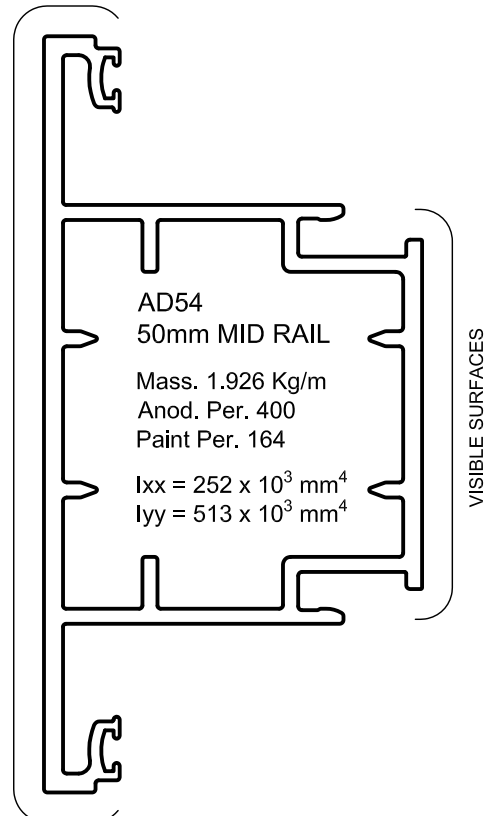
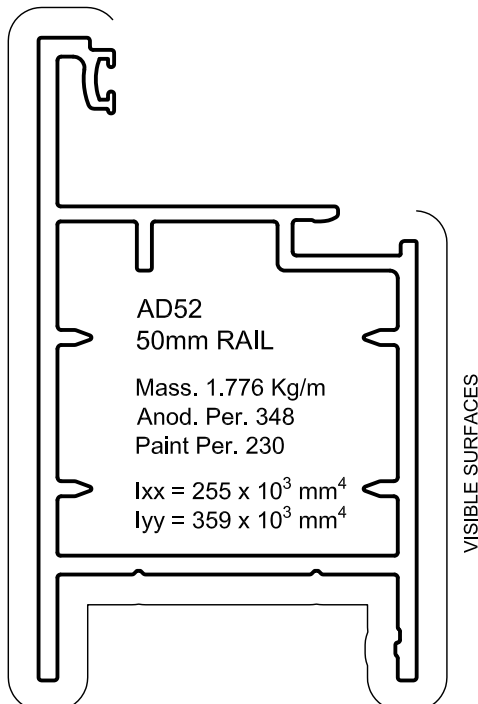
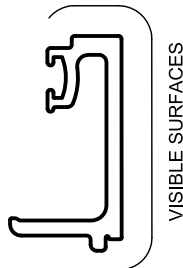


AD57
50mm DOOR STOP

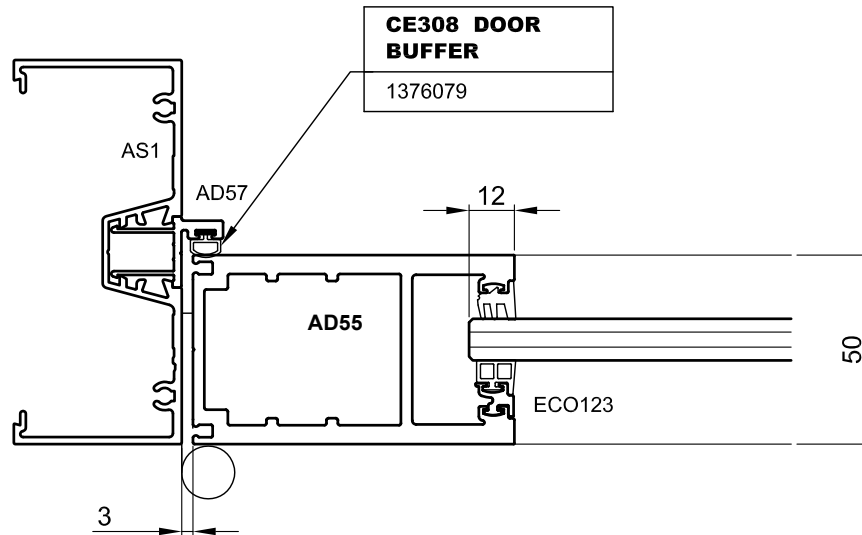
Mass. 0.304 Kg/m
Anod. Per. 142
Paint Per. 100

AD53
BEAD

Mass. 0.311 Kg/m
Anod. Per. 120
Paint Per. 100

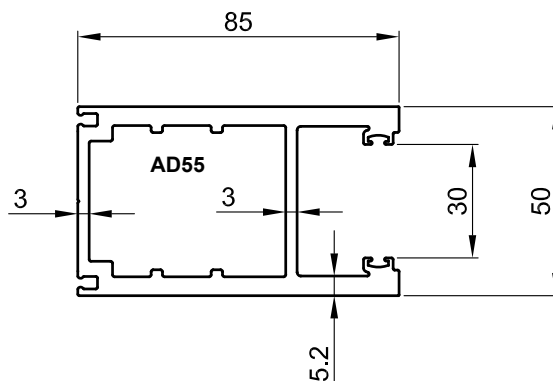


Jamb Detail

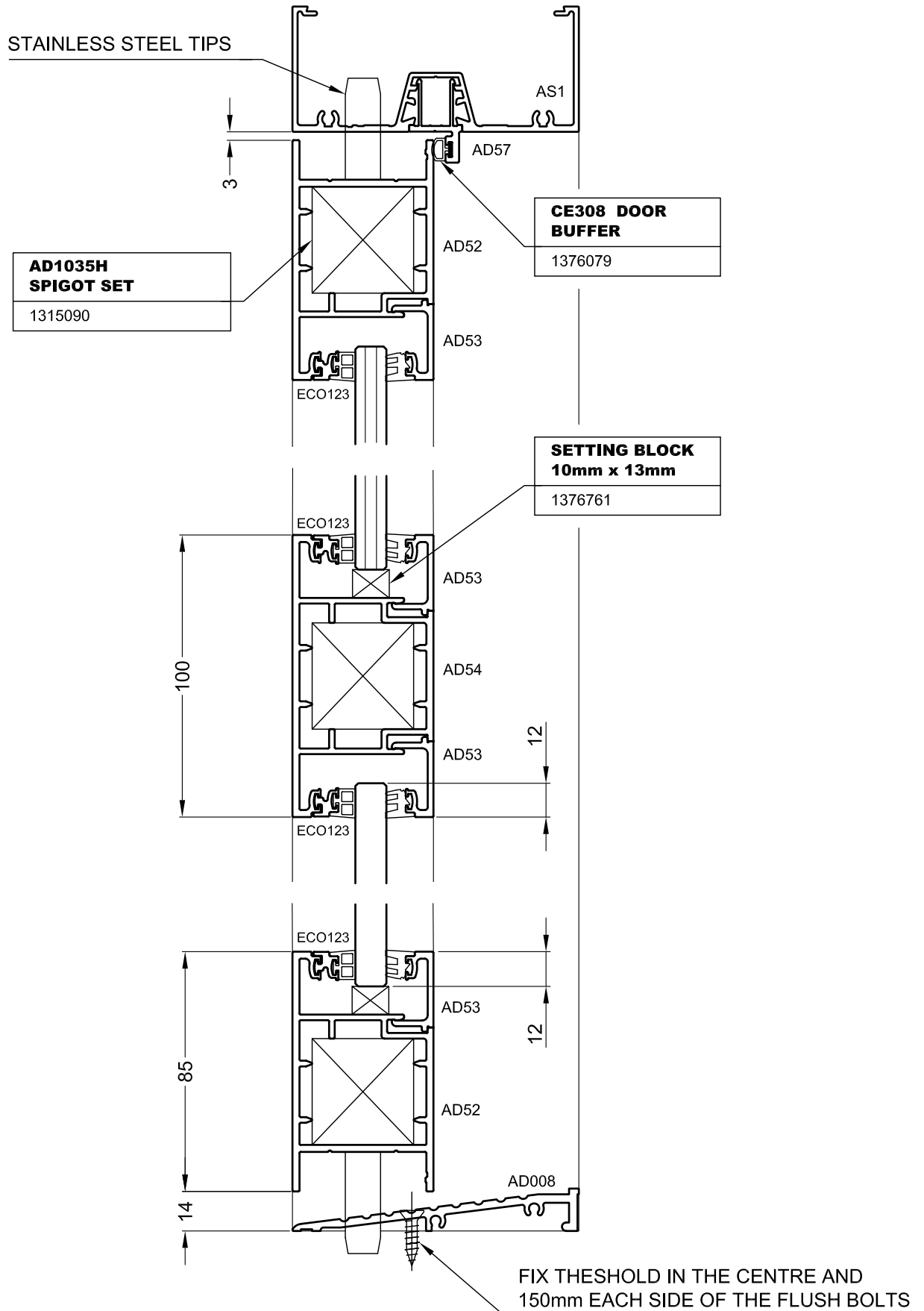


FOR APPLICATIONS WHERE CYCLONIC IMPACT RATED GLASS IS SPECIFIED, DOOR PANELS MUST BE WET GLAZED WITH BOSTIC V60 SILICONE OR EQUIVALENT

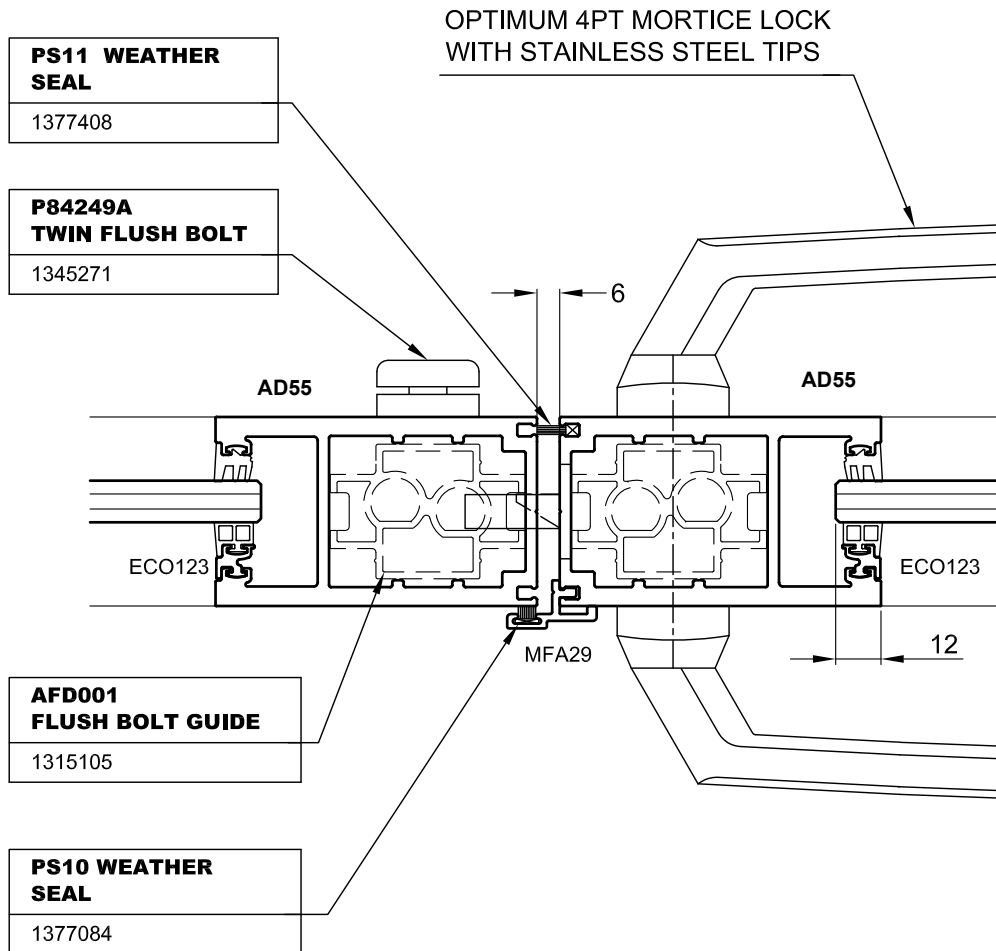
BASIC OVERALL DIMENSIONS



Head, Sill, Transom Details



Meeting Stiles + Test summary



Test Report: AS13-215

50mm CYCLONIC HINGED DOOR (PAIR OF DOORS)
OPTIMUM 4 POINT LOCK AND TWIN BOLT (AS PICTURED ABOVE)

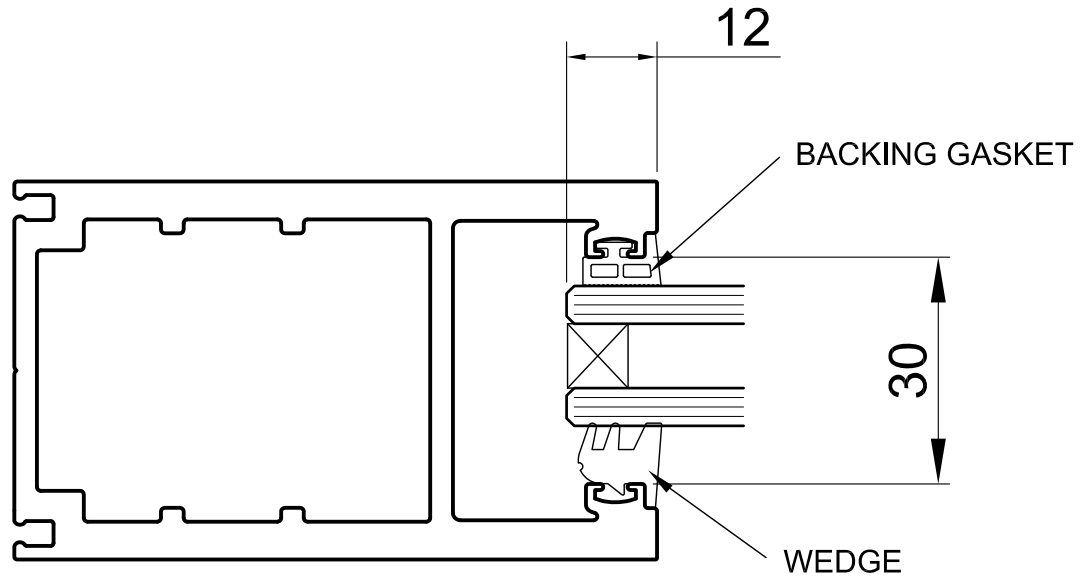
Test sample size.....	2100 H x 1920 W
Serviceability load @ L/250.....	± 3,000 Pa
Ultimate load.....	+10,050 Pa -9,075 Pa

Test Report: AS13-220

50mm CYCLONIC HINGED DOOR (PAIR OF DOORS)
LOCKWOOD 9300 EOSIL PANIC BAR WITH 680-NBLK PUSH BOLTS

Test sample size.....	2100 H x 1920 W
Serviceability load @ L/250.....	± 2,410 Pa
Ultimate load.....	+10,020 Pa -7,030 Pa

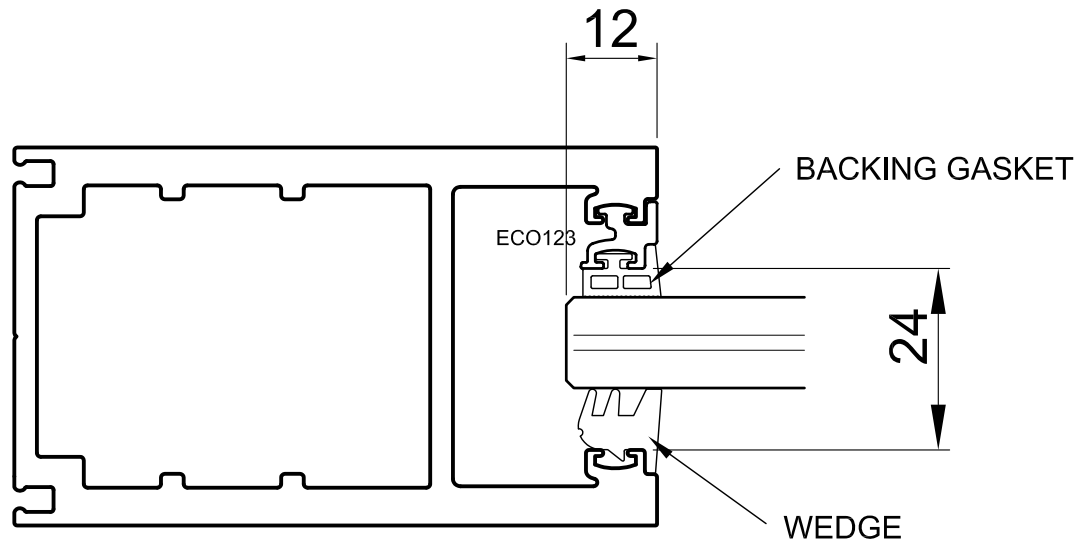
Double Glazed Details



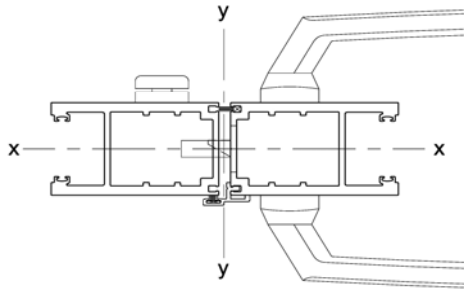
FOR APPLICATIONS WHERE CYCLONIC IMPACT RATED GLASS IS SPECIFIED, DOOR PANELS MUST BE WET GLAZED WITH BOSTIC V60 SILICONE OR EQUIVALENT

GLASS THICKNESS	WEDGE		CO-EXTRUDED BACKING GASKET
	ID COLOUR	REF. (GAP)	REF. (GAP)
18mm THICK	YELLOW	GR46 (6mm)	CE49 (6mm)
20mm THICK	WHITE	GR44 (4mm)	CE49 (6mm)
22mm THICK	WHITE	GR44 (4mm)	CE37 (4mm)
24mm THICK	WHITE	GR44 (4mm)	CE36 (2mm)
25mm THICK	BROWN	GR43 (3mm)	CE36 (2mm)

Single Glazed Details



GLASS THICKNESS	WEDGE		CO-EXTRUDED BACKING GASKET
	ID COLOUR	REF. (GAP)	REF. (GAP)
10mm THICK	ORANGE	GR48 (8mm)	CE49 (6mm)
12mm THICK	YELLOW	GR46 (6mm)	CE49 (6mm)
14mm THICK	WHITE	GR44 (4mm)	CE49 (6mm)
16mm THICK	WHITE	GR44 (4mm)	CE37 (4mm)



AD55 STILES + MFA29 ADAPTOR

$I_{xx} = 990 \times 10^3 \text{ mm}^4$

Max Stress = 110 Mpa

S = Serviceability limit state I/250

U = Ultimate limit state

L/250

Panel Height	Maximum Design Pressure (Pa)						
		750	800	850	900	950	1000
3000	S	1060	990	940	890	850	810
	U	4790	4500	4250	4030	3830	3650
2900	S	1170	1100	1040	990	940	900
	U	5130	4830	4560	4320	4110	3920
2800	S	1310	1230	1160	1100	1050	1000
	U	5510	5190	4900	4640	4420	4220
2700	S	1460	1380	1300	1230	1170	1120
	U	5940	5590	5280	5010	4770	4550
2600	S	1640	1550	1460	1390	1320	1260
	U	6420	6040	5710	5420	5160	4920
2500	S	1850	1740	1650	1570	1490	1430
	U	6960	6550	6200	5880	5600	5350
2400	S	2100	1980	1870	1780	1700	1620
	U	7580	7130	6750	6410	6100	5830
2300	S	2400	2260	2140	2030	1940	1860
	U	8270	7800	7380	7010	6680	6390
2200	S	2750	2590	2460	2340	2230	2140
	U	9070	8550	8100	7700	7340	7020
2100	S	3000	3000	2840	2710	2590	2480
	U	10000	9430	8930	8500	8110	7770
2000	S	3000	3000	3000	3000	3000	2900
	U	10000	10000	9910	9430	9010	8640
Panel Width		750	800	850	900	950	1000

This table is based on theoretical section properties