TEST REPORT

AZUMA Design

Glass Barriers

Client – Genneral Staircase

Product – Ultralox 76.2 mm Post – 840 mm Glass Panel

Tested By

Azuma Design Pty Ltd

AZT0361.23

Nata Accredited Laboratory No. 15147

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Test results in this report are relevant only to the sample tested.

Signature: Date: 18/10/2023

1 Customer Requirements

To test the sample by the test methods specified in Appendix H of AS1288-2021 and requirements from Section 7.

2 Referenced Standards

- AS1288-2021 Glass in buildings Set - Section 7 Balustrades, Appendix H
- AS/NZS1170.1:2002 Structural design actions- Permanent, imposed and other actions (Clause 3.6, Table 3.3)

3 Test Sample Description

Model No./Name	Ultralox 76.2 mm Post – 2 x 840 mm Width Glass Panels
Customer	Genneral Staircase
Address	12b – 13 Davis Road, Wetherill Park NSW 2164
Azuma Testing Number	AZT0361.23
Date of Test	20/09/2023
Structural Connection	Nil
Test Sample Description	2 x 76.2 mm posts fixed into concrete with 4 off M8 x 75 mm masonry bolt anchors fixings per post. Between posts, the rails are fixed using a small bracket fixed to the posts and the panel screw fixed to the bracket, A handrail is then press fit onto the top of the panel and secured with one screw at each end on each side. A small support footing as spaced at the mid span of the panel and is fit over a bolted down block of wood. The footing is screwed fixed through to the timber and to the bottom rail. 2 x 840 x 927 mm Glass panels are 2 side rubber glazed into the top and bottom channels with a 50 mm gap between glass and a 75 mm gap between glass and posts.

4 Results

4.1 Barrier Gap Test

Does the probe pass through any gap	No, gaps checked are the glass gap and bottom of the panel gap
Result	Pass

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4.2 Point Load Testing

4.2.1 Outwards

Type of Load	Serviceability	Ultimate
Load Applied	600 N	990 N
Time Load Held	10 minutes	10 minutes
Deflection under Load	11.67 mm	19.28 mm
Permanent Deflection	0.29 mm	0.82 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

4.2.2 Downwards

Type of Load	Serviceability	Ultimate
Load Applied	600 N	1080 N
Time Load Held	10 minutes	10 minutes
Deflection under Load	0 mm	0 mm
Permanent Deflection	0 mm	0 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

4.3 Uniform Line Load Testing

4.3.1 Vertical – 750 N/m (Span 1910 mm)

Type of Load	Serviceability	Ultimate
Load Applied	1433 N	2363 N
Time Load Held	10 minutes	10 seconds
Deflection under Load	0 mm	0 mm
Permanent Deflection	0 mm	0 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

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4.3.2 Horizontal – 750 N/m (Span 1910 mm)

Type of Load	Serviceability	Ultimate
Load Applied	1800 N	2970 N
Time Load Held	10 minutes	10 seconds
Deflection under Load	27.25 mm	50.42 mm
Permanent Deflection	1.53 mm	0.91 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

4.4 Infill Point Load Testing

Type of Load	Serviceability	Ultimate
Load Applied	500 N	825 N
Time Load Held	1 minute	10 seconds
Deflection under Load	14.03 mm	25.41 mm
Permanent Deflection	0.00 mm	0.12 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

4.5 Infill Uniform Load Testing – (Area 0.756 m^2)

Type of Load	Serviceability	Ultimate
Pressure Required	1000 Pa	1650 Pa
Load Applied	756 N	1248 N
Time Load Held	5 minutes	10 seconds
Deflection under Load	18.12 mm	28.74 mm
Permanent Deflection	0.13 mm	0.26 mm
Damage to Glass in Sample	No	No
Result	Pass	Pass

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5 Conclusion and Signatories

5.1 Conclusion

The tested sample has passed the requirements of AS1288 Appendix H.

5.2 Signatories

Tested By:	Ashley Horne
Position:	National Business Manager
Qualifications:	B.ENG (Hons), MEM, MIEAust
Signature:	
Date:	18/10/2023

END OF REPORT

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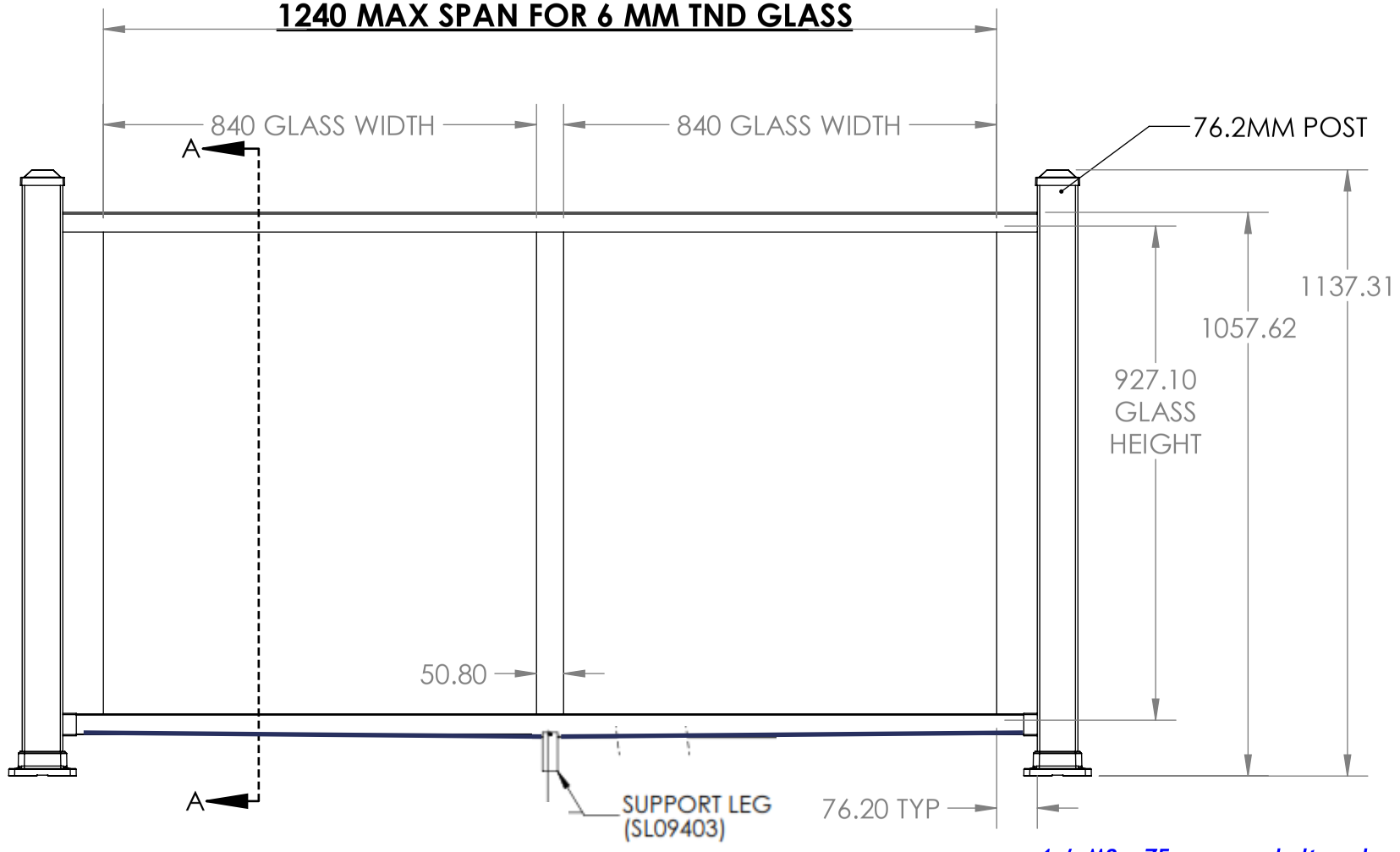
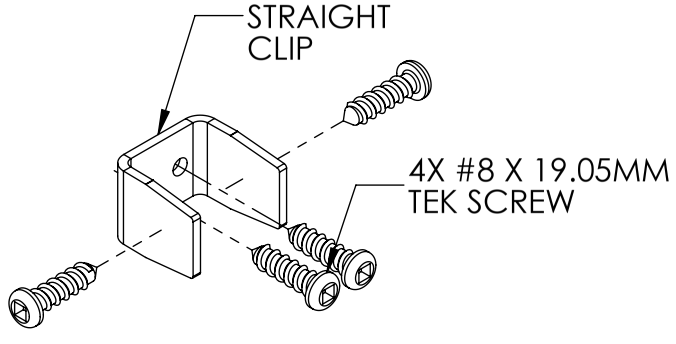
REVISIONS - 0 BALLOONS DENOTE CHANGES			
REV.	DESCRIPTION	DATE	APPROVED
A		9/8/2023	ZAG

18/10/2023

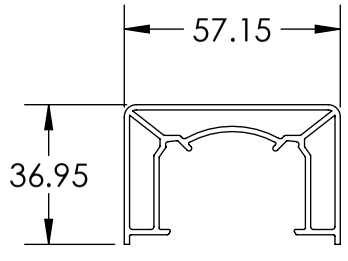
2X GLASS PANELS REQD
1240 MAX SPAN FOR 6 MM TND GLASS



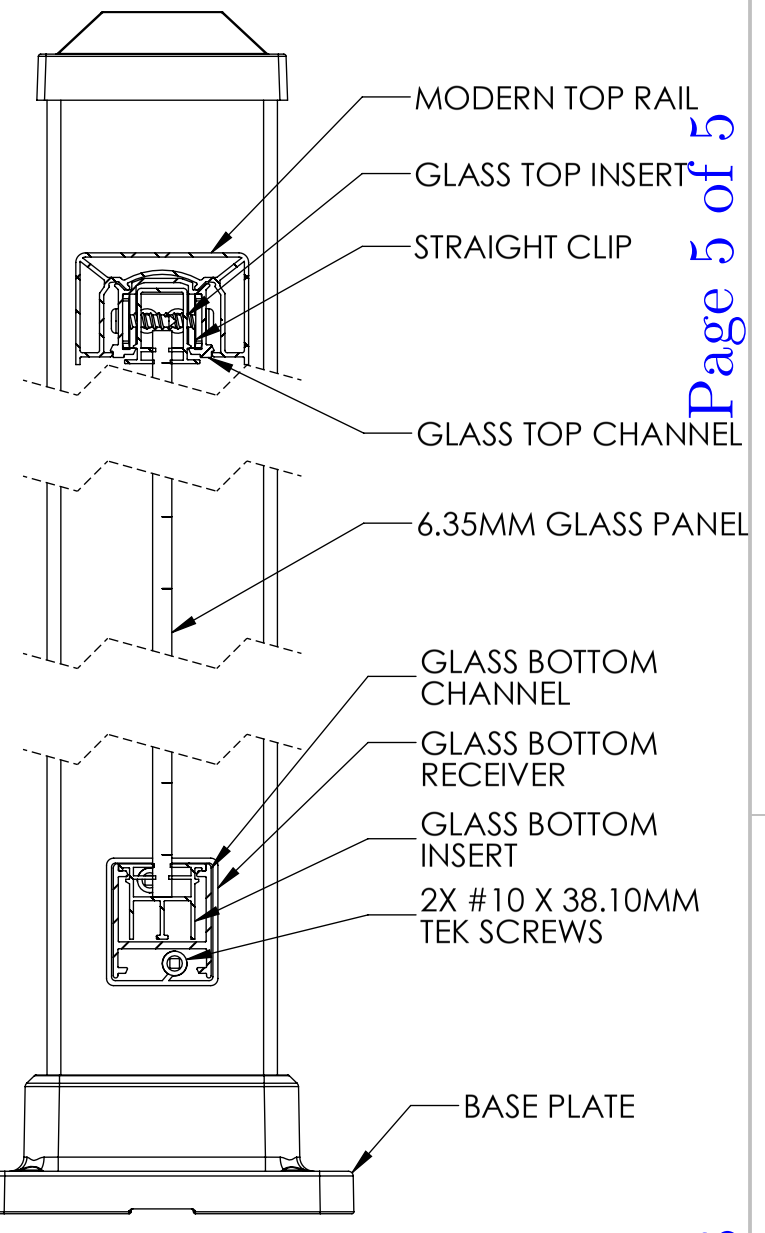
4x/ M8 x 75 masonry bolt anchors per post



2X CLIP DETAIL



MODERN TOP RAIL



SECTION A-A

Information supplied by customer

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NOTE:
1. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5-2009
2. MATL.: ALUM. ALLOY FIN.: POWDERCOAT
3. DRAWING FOR GENERAL DIMENSIONAL & ASSEMBLY REFERENCE

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN MM TOLERANCES: SURFACE FINISH: 125 RMS ANGULAR: ±.5 DEG LINEAR: .XX ±.254 .XXX ±.127	DRAWN	VINH	9/8/23
	CHECKED		
	ENG APPR.		
	MFG APPR.		
THIRD ANGLE PROJECTION:	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009		
MATERIAL	**PROPRIETARY AND CONFIDENTIAL** THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF UltraLox. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF UltraLox.		
FINISH			
DO NOT SCALE DRAWING			

ULTRALOX INTERLOCKING TECHNOLOGY

TITLE:

AZT0361.23

SIZE	DWG. NO.	REV
	WEIGHT:	SHEET 3 OF 3