



Glass Balustrade Load Testing Report	
Report Number:	STS13-0071-07
Client:	The Glass Outlet
Client Contact:	Mr. Richard Van Lieshout & Mr. Luke Keong
Job Description:	The Overload Testing of Glass Balustrade Assembly
Specifications:	<p>'Summit' Nano Top Glaze Frameless Balustrade with Madrid Spigots <u>Glass Panel (3 off)</u> Width: 900mm Height: 970mm Thickness: 12mm "HEAT SOAKED Toughened Glass" <u>Spigots (2 off)</u> Type: Madrid Spigot (MAD-SBP-P) Material: 2205 Stainless Steel <u>Hand Rail (1 off)</u> Section: 25mm x 21mm x 1.2mm Material: 2205 Stainless Steel Adhesive: Fuller – HBF 660</p>
Test Standard:	Clients Requirements
Engineering Review:	Noel F Straker <i>BEng, MEngSc, CPEng, NPER, RPEQ 10652</i> Signed:  Date: 7/6/2013
Report Date:	7-6-2013
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;">  Paul McCarragher Senior Engineering Technician / Director </div> <div style="width: 65%;"> <p>Scope Testing Services Pty Ltd 16 Willy Lane Mount Crosby ABN No: 50 282 740 545 Mobile: 0413006692 Phone/Fax: 3201 1384 scopetesting@bigpond.com.au Accreditation No: 17076</p> </div> </div>	

Note: This report is based on information supplied by the client.

1 Test Method

1.1 Balustrade Assembly

The balustrade was assembled and fixed to the floor of the Glass Outlet Warehouse with 10mm x 65mm Dyna bolts. The Hand Rail was attached to the top of the glass with Fuller – HBF 660 Adhesive (Refer Photo 1)

2 Testing

2.1 Horizontal Loading (Infill)

A rigid timber sheet and foam underlay was placed across the front face of the center panel to produce a uniformly distributed load. The load was applied horizontally to the center of the panel. The load was applied with a mechanical advantage thread system. The load was monitored with a calibrated load cell. The load was increased until the Balustrade assembly was unable to sustain the applied load. At the completion of the loading the balustrade assembly was inspected for any signs of failure. (Refer Photo 2)

3 Results

Table 1 Balustrade Destructive Testing Results

Test Load	Inspection
100kg	No defects evident
200kg	No defects evident
300kg	* Opening of spigots
400kg	*Glass showed no signs of failure *Spigots starting to open
440kg	*Opening of spigots, glass loose in spigots, No further loading possible

3.1 Summary

At a load of 400kg the glass balustrade panel showed no signs of failure. The spigots had signs of opening but could be retightened onto the balustrade. At 440kg the load reached its peak and the spigots opened. In conclusion the Balustrade assembly was able to sustain a load of 440kg without a catastrophic component failure.

Test Load 440kg = 5 kPa

C3 Requirement x 1.5 Safety Factor: 1.5 kPa



Photo 1 Balustrade Assembly



Photo 2 Test Method