Test Report

AZUMA
Design

Pool Fence

Client – Sentrel

Product – Pool Fence System

Tested By

Azuma Design Pty Ltd

AZT0003.20

Nata Accredited Laboratory No. 15147

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

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards

1 Customer Requirements

To test the pool fence sample according to AS1926.1 Set 2012- Swimming Pool Safety Standards Set- Section 3- Loading Requirements. Only the applicable tests for this type of sample shall be carried out.

2 Test Sample Information

2.1 General Information

Product Name/Number	Sentrel I-Rail
Customer	Sentrel
Address	46 Commerce St, Wauchope NSW 2446
Azuma Test Number	AZT0003.20
Date of Test	20/01/2020
Sample Supplied	By customer and installed by customer
Overall Size	3320 mm (L) x 1120 mm (Height)
Test Sample Description	Aluminium Posts fixed with 4 dynabolts, posts containe two slots for mounting the horizontal rails of the pool panel. Pool panel consists of two horizontal lengths of extrusion with stainless steel tubes spaced out between them. Sample supplied in good condition.

2.2 Barrier

Material		Aluminium/316 Stainless Steel
Overall Dimensions	**Horizontal**	3250 mm
	Vertical	1195 mm
Gap between Vertical Elements (< 100 mm)		85 mm
Spacing between Vertical Elements		100 mm
Gap between Horizontal Elements (> 900 mm)		975 mm
Total Product Height Greater than 1100 mm		1195 mm
Gap between bottom of barrier and finished ground level (< 100 mm)		90 mm

2.3 Gate

No gate as part of tested sample

2.4 Posts

Material	Aluminium
Overall Dimensions	65 mm x 65 mm x 3 mm
Base Plate (if applicable)	110 mm x 110 mm x 8 mm
Drawing Supplied	No
Fixing Method	Concrete screws 6 mm x 50 mm
Spacing between Posts	3190 mm

3 Strength and Rigidity of Barrier Openings

3.1 Procedure

From AS 1926.1 - 2012 - Appendix A - Test for Strength and Rigidity of Barrier Openings.

1. Secure the panel into the supporting structure (jig) in the vertical position.
2. Hang the test object from the supporting structure. The test object shall be suspended horizontally at two points by using a suspension method that minimizes the effects of friction and allows free movement, as shown in Figure A1 of AS 1926.1.
3. Attach the force measuring device to the conical end of the test object, as shown in Figure A1 of AS 1926.1. Connect the other end of the force measuring device to the force activating device.
4. Each panel shall be tested in three locations, across the width of the panel at the middle of each third of the panel.
5. Place the conical end of the test object into the opening being tested and steadily apply a force up to 150 N, in an attempt to force the object through the opening. Should the test object oscillate during the test it shall be stabilized.
6. Record the force at which the test object pulled through the panel or that it failed to pull through the panel.

3.2 Results

Force Location	Peak Force (minimum 150 N)	Result
Left Third Centre	191.4 N	Pass
Middle Third Centre	218.5 N	Pass
Right Third Centre	234.4 N	Pass

4 Strength of Posts and Footings

4.1 Procedure

From AS 1926.1 - 2012 - Appendix B - Test for Strength of Posts and Footings.

1. Place the flat end of the test object against the post under test at a height of 1.2 m above finished ground level at 90° to the barrier.
2. Apply a horizontal force of 330 N, without shock, to the test component.
3. Apply the test force for a minimum of 30 seconds.
4. Remove the force and inspect the post for damage or loosening of the footings.
5. For gate posts, the test is to be carried out with the gate held or chocked in a partly open position. After testing check that the gate will close and latch when released from various positions from a 90° opening to resting on the latch.

4.2 Results

Distance from ground to point of force application	1195 mm
Datum Measurement	202 mm
Force Applied	330 N
Time Held	30 seconds
Permanent Deformation	0 mm
Breakage or sign of fracture of any component	Nil
Loosening of any component that will impair the effectiveness of the panel	Nil
Any damage to the gate that would prevent it from closing and latching from any position	Nil
Result	Pass

5 Strength of Fencing Components

5.1 Procedure

From AS 1926.1 - 2012 - Appendix C - Test for Strength of Fencing Components.

1. Connect the force measuring device to test object.
2. Place the flat end of the test object against the test component at its most flexible point.
3. Using the force measuring device, apply a pre-load force of 50 N for a minimum of 30 seconds. Remove the force and measure the zero load displacement.
4. Using the force measuring device apply a force of 330 N, without shock, for a minimum of 30 seconds.
5. Remove the test force and measure and record the amount of permanent deformation of the component relative to the zero load displacement.
6. Inspect the component for –
    a. breakage or sign of fracture of any component; and
    b. Loosening of any component that will impair the effectiveness of the panel.

5.2 Results

Horizontal	
Preload Force	50 N
Time Held	30 seconds
Datum Measurement	222 mm
Force Applied	330 N
Time Held	30 seconds
Permanent Deformation	0 mm
Breakage or sign of fracture of any component	Nil
Loosening of any component that will impair the effectiveness of the panel	Nil
Permanent Deformation exceeds the limit of: $\frac{l}{200} = \frac{3250}{200} = 16.25\ mm$	0 mm is less than 16.25 mm
Result	Pass

Vertical	
Preload Force	50 N
Time Held	30 seconds
Datum Measurement	230 mm
Force Applied	330 N
Time Held	30 seconds
Permanent Deformation	229 mm -> 1 mm
Breakage or sign of fracture of any component	Nil
Loosening of any component that will impair the effectiveness of the panel	Nil
Permanent Deformation exceeds the limit of: $\frac{l}{200} = \frac{1065}{200} = 5.325\,mm$	1 is less than 5.325 mm
Result	Pass

10 Conclusion and Signatories

10.1 Conclusion

From the results achieved, it is evident that the sample satisfied the tested requirements as per AS1926.1-2012 Swimming Pool Safety Standards Set.

10.2 Signatories

Tested By: Ash Horne

Signature: AHorne

Date: 20/01/2020

END OF REPORT