

Terminator 500 Roof Ventilator

Static Roof Ventilator Wind Load Resistance Test Report

Report No: TJWD 201413

Test Content: Wind load resistance, status and impact on product integrity at different wind speeds.

Test Sample: 500mm throat static roof ventilator.

Type: Terminator 500 – throat diameter 500mm.

Sample Provided By: Gilco Solutions Pty Ltd

Test Carried out by: Toprise technology Ltd

Test Equipment: The experiment used a TJ-2 reverse flow boundary layer wind tunnel which is a computer controlled, wind tunnel.

Tunnel Length – 15m

Section – 3.0m x 2.5m

Test wind velocity capability – 2m/s – 68m/s

Contraction Ratio – 3.56

Turbulence Level - <1%

Computer Controls – tested and working

Fan System – variable speed, 530kw DC motor

Test Date: 24-03-2014

Test Description: Observe any changes to ventilators structure and stability when subjected to wind speeds of 10m/s-35m/s.

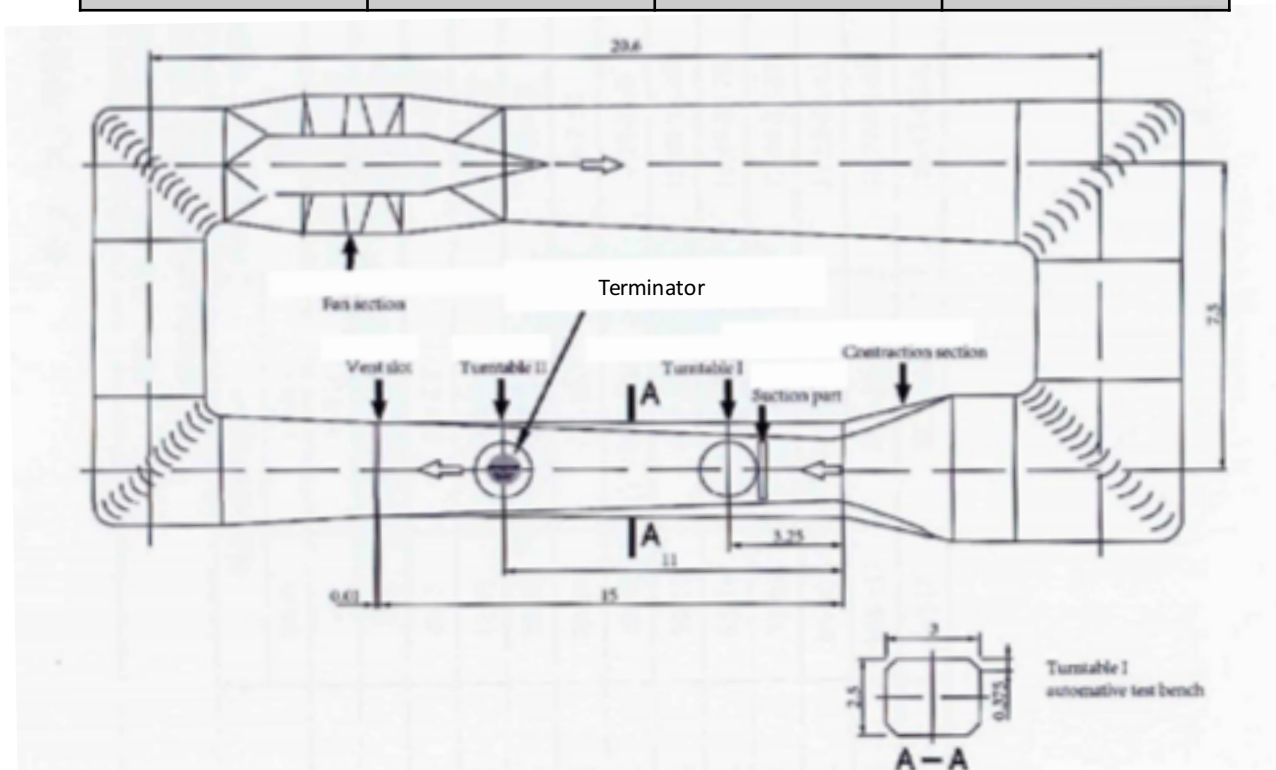
Test Result: See Table 1

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Wind speed capacity – Table 1

Wind speed	Duration	Damage	Description
10 m/s	10	No	Steady
15 m/s	10	No	Steady
20 m/s	10	No	Steady
25 m/s	10	No	Steady
30 m/s	10	No	Steady
35 m/s	10	No	Slight wobble
40m/s	5	No	Slight wobble



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Static Roof Ventilator Exhaust Capacity Test Report

Report No: TGK 208252-1

Test Content: Relationship of wind velocity and exhaust capacity at a set temperature condition of 27°C and same height.

Test Sample: 500mm throat static roof ventilator.

Type: Terminator 500 – throat diameter 500mm.

Sample Provided By: Gilco Solutions Pty Ltd

Test Carried out by: Toprise technology Ltd

Test Equipment: The experiment used a TJ-1 boundary layer wind tunnel which is a suction type low DC, wind tunnel.

Tunnel Length – 14m

Section - 1.8m x 1.8m

Test wind velocity capability – 2m/s – 30m/s

Contraction Ratio – 3.56

Turbulence Level - <1%

Flow field – Clear

Computer Controls – tested and working

Fan System – variable speed, 90kw DC motor

Test Instrument: BT-2234C intelligent photoelectric digital tachometer, speed range 2.5-999.99rpm

Test Date: 28-08-2012 Test Description 1: Exhaust capacity of static type roof ventilator at specified wind speeds. Set temperature of 27°C with constant wind velocity.

Test Result: See Table 1 & Table 2

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Exhaust capacity – Table 1

	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6	NO.7	Average
2 m/s	1514	1497	1509	1520	1461	1478	1481	1494
4 m/s	2706	2701	2723	2664	2729	2740	2737	2714
6 m/s	4092	4058	3997	4022	4022	4027	4025	4035
8 m/s	5363	5385	5301	5295	5307	5321	5287	5323
10 m/s	6558	6580	6577	6608	6664	6580	6653	6603

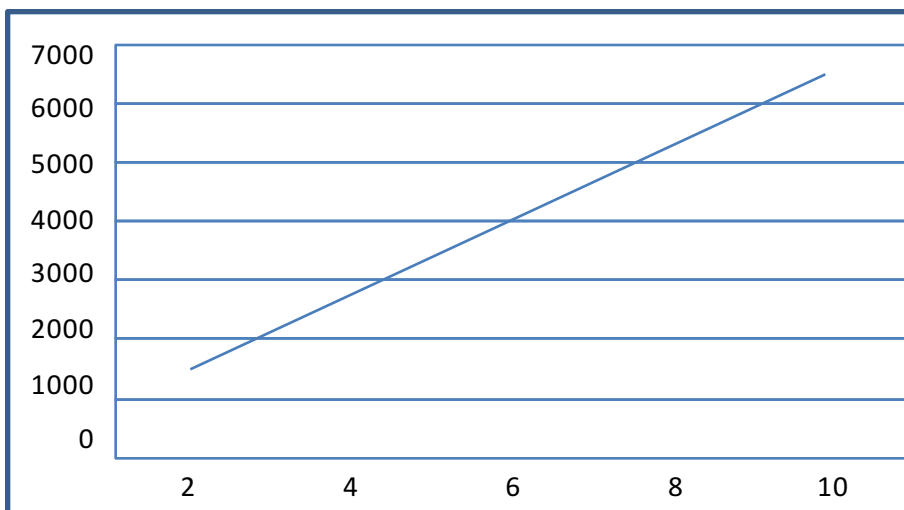


Table 2

Wind speed (m/s)

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In addition to wind tunnel testing as per page 1, the Terminator 500mm static roof vent has included 3D modelling/testing in accordance with AS4740 Section 5.4.

Mechanical Performance:

The Terminator 500 has met or exceeded all requirements for compliance as per the following standards:

AS4740 (Main Standard)

AS2428 Part 1 (Rain),

AS2428 Part 2 (Wind),

AS2428 Part 4 (Fire) *

AS2428 Part 5 (Coefficient of Discharge)

AS1668.2 and 1668.4.

Structural Certification:

Tested to establish appropriate drag coefficients, surface pressures and base fixing loads for Region D wind loads.

FE analysis has been utilised* for this element of structural certification as per AS4740 – Appendix 1/15.

Cad Fabrication drawings, 3D Imaging and modelling: *Genesis 3D, Western Australia.*

Qualitative Wind Loading Estimates: *Plexus Engineering Western Australia.*

Structural Finite Element Analysis: *Plexus Engineering Western Australia.*

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***** End of Test Report *****