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This report is the summary of testing of Alulite scaffolding in accordance with AS/NZS 1576.3. The report details the structural performance of the scaffolding in order to determine if the structure is adequate for certification.

## TEST ON ASSEMBLED TOWER (AS/NZS 1576.3, Appendix A)

(a) Identification of assembled tower.  
Alulite scaffolding system. All scaffolds available in Alulite's portfolio.

(b) The total test force applied and the length of time it was applied.  
700kgs (approximately 7000N) for 15 minutes

(c) The dead and live load applied to each standard.  
The Client was confident enough to test each standard to the max load available to insure the scaffold is safe according to AS1576.3 and safe according to the client.

The load for each standard was 175 kgs (approximately 1750N). According to AS/NZS 1576.3 the loads applied to the each set of standards, A1 and A2, for each configuration are tabulated below.

Loads Required					
Type	Length	Height	A1 (kg)	A2 (kg)	total
SW(0.745)	1.8	6	178.59	88.89	534.95
	2.4	6	179.92	90.22	540.29
	3	6	181.29	91.59	545.76
FW(1.2)	1.8	6	184.69	94.99	559.35
	2.4	6	186.02	96.32	564.69
	3	6	187.39	97.69	570.16
EFW(1.96)	1.8	6	190.64	100.94	583.16
	2.4	6	191.98	102.27	588.49
	3	6	193.34	103.64	593.97
QW(2.4)	2.4	6	196.34	106.64	605.95
	3	6	197.71	108.00	611.42
EQW(3)	3	6	203.66	113.95	635.23

(d) The calculations of the dead and live loads  
The loads applied were calculated as stated in AS/NZS 1576.3.

Test load  $A1 = (2G - W)/4 + (0.7Q)$

Test load  $A2 = (2G - W)/4 + (0.3Q)$

$G$  = the weight of the assembled tower at its design height

$W$  = the weight of the assembled tower erected to the height for the test.

$Q$  = the live load on the working platform as specified in AS/NZS 1576.1, multiplied by the number of working platforms.  $Q=2.2\text{kN}$  per platform (AS/NZS 1576.1)

The calculations were carried out using spreadsheet where the dimensions and inputs can change. An example is contained at the end of the report.

(e) Detailed description, drawing or photograph of the force-transmitting device.

The force was transferred to the scaffold standards using weights of 25Kgs applied to the top of the standard using a pole inserted into the standard and extended upward so weights can be added.



(f) Location of testing facility.

The Alulite factory located at 16 May Holman Drive Bassendean WA, 6064

(g) Date and time of the test.

Date: 26/05/2011

Time: 8.00am-12.00am

(h) Names, positions and qualifications of personnel carrying out or supervising the test.

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(i) Location and details of failure or any permanent deformation.

No failure occurred, and no permanent deformation was observed.

(j) Whether the assembled scaffold passed or failed the test.

The scaffold passed the test

## STIFFNESS TEST ON ASSEMBLED FREESTANDING SCAFFOLDS (AS/NZS 1576.3, Appendix D)

(a) Identification of assembled scaffold.  
Alulite scaffolding system. All scaffolds available in Alulite's portfolio.

(b) The total test force applied, its direction and the length of time it was applied.  
250N test load was applied to two adjacent standards at a height of 6m. The force acted perpendicular to the scaffold standards and was applied to the different sides of the scaffold. The load was applied for 15 minutes. This is all determined from AS/NZS 1576.3, Appendix D.

(c) Detailed description, drawing or photograph of the force-transmitting device.  
The force transmitting device was a 50kg weight attached to a wire running between two scaffolds. There the resultant horizontal force applied was 250N



(d) Location of testing facility.

The Alulite factory located at 16 May Holman Drive Bassendean WA, 6064

(e) Date and time of the test.

Date: 26/05/2011

Time: 8.00am-12.00am

(f) Names, positions and qualifications of personnel carrying out or supervising the test.  
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(g) Deflections  $S_1$  and  $S_2$ .

Max deflection were  $S_1= 196\text{mm}$  and  $S_2=180\text{ mm}$

(h) The calculation of the maximum height of the working platform.

$S = 196\text{mm}$

$H= 1200/196=6.316$

The maximum working height of the platform is 6m without additional support.  
Addition support and bracing can be for working at greater height as long as the distance between supports does not exceed 6m.

## TEST OF PREFABRICATED PLATFORM UNIT (AS/NZS 1576.3, Appendix E)

Tests were carried out on the working platform to ensure that the platform conforms to the AS/NZS 1576.3.

(a) Identification of component and its location in the assembled scaffold.

Scaffold platform, located horizontally connected to horizontal members at desired work height.

(b) The test force applied, location and the length of time it is applied.

1. A 1kN test force was applied on an area 100 mm by 100 mm at the centre of the platform unit for 15 min. (light-duty platform)
2. Apply twice the total working platform live load, as specified in AS/NZS 1576.1, as a uniformly distributed load over the middle third of the span for 15 min. The load applied was 4.4kN

(c) Detailed description, drawing or photograph of the force-transmitting device.

The force-transmitting device was a weights of 25kgs applied to the platform in the configuration described above.



(d) Location of testing facility.

The Alulite factory located at 16 May Holman Drive Bassendean WA, 6064

(e) Date and time of the test.

Date: 26/05/2011

Time: 8.00am-12.00am

(f) Names, positions and qualifications of personnel carrying out or supervising the test.

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(g) Location and details of failure or any permanent deformation.

No failure occurred, and no permanent deformation was observed.

(h) Whether the assembled scaffold passed or failed the test.

The prefabricated platform unit passed the test

Alutite Aluminium Scaffolding	
Diameter(mm)	50.8
Thickness(mm)	2.64
Unit Weight Aluminium(kN/m3)	26.7
Area(mm)	291.5398
Scaffolding Type	FW (L =2.4)
Number of working platforms	1
Design weight (G)	0.919148
Dead Weight At Height	
Height	6
Width	1.36
Length	2.4
horizontal Spacing	0.4

Member Lengths				
	vertical	horizontal	Total length per side	Total
Transverse lengths	12	17.68	29.68	59.36
	Horizontal	Bracing	Total length per side	Total
Longitudinal member lengths	4.8	10.4	15.2	30.4

no of braces per side	4
vertical height	1
Length	2.6

Member Weights					
Transverse side lengths	Longitudinal side lengths	Total Length	Total Weight (kN)	Addition weight	Overall Weight (kN)
59.36	30.4	89.76	0.698702		0.698702

Live Loads		2.2kN per working area, includes a 1.2 kN concentrated load			
	Point load (kN)	Distributed load (kPa)	Total per platform(kN)	Total	
Q	1.2	0.674019608	2.2	2.2	
<b>Loads Applied to Standards</b>					
G	0.919148	dead	0.284899		
W	0.698702	live	1.54		
Q	2.2				
	kN	kg			
Test Load A1	1.824899	186.0243141			
Test Load A2	0.944899	96.31993085			





