5th July 2016



Design Quintessence Pty Ltd Unit 25, 7-9 Percy Street Auburn NSW 2144

Attention: Mr Ian Wood

STRUCTURAL DESIGN CERTIFICATE

Project Description: Design Quintessence Truss Lifting Beams

We, Partridge Structural Pty Limited, being Professional Structural Engineers, within the meaning of the Building Code of Australia, hereby certify that we have carried out a design review of the proof load testing carried out on the Design Quintessence Truss Lifting Beams and confirm that the following working load limits may be assumed:

A33-A34 Truss Lifting Beam: F33-F34 Truss Lifting Beam: F43-F44 Truss Lifting Beam: F54 Truss Lifting Beam: 7.0 kN (700 kg) 7.0 kN (700 kg) 10.0 kN (1000 kg) 10.0 kN (1000 kg)

Assumptions:

- The values are based on the Load Test Reports provided by Global Truss, dated 08/06/2016, 07/06/2016, 31/05/2016 and 07/06/2016 respectively, and are appended to this certificate.
- One load test was performed on each Design Quintessence Truss Lifting Beam. The capacity was derived by manipulating the results in accordance with the guidelines outlined in Section 8 of AS/NZS 1664.1-1997.
- This certification is to only be read in conjunction with all relevant technical drawings, manuals and the abovementioned Load Test Reports.

Prepared by,

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For and on behalf of: <u>Partridge Structural Pty Limited</u>

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Rob O'Reilly BE (Hons) MIEAust CPEng NPER(Structural) RPEQ <u>Group Director</u>



APPENDIX A LOAD TEST REPORTS

TEST REPORT FOR A33-34 Truss suspension bracket



Below picture for show the statement of the conditions of testing

Before apply a test load, distance between plate and screw is 0.156m

the test results for each specimen as described above in the testing

procedure pictures



Apply a test load of 750kg



Distance is 0.157m after loaded deformation of the specimen at five minutes



Distance is 0.156m Unload the specimen



Apply a test load of 1500kg



Distance is 0.157m after loaded deformation of the specimen at five minutes



Distance is 0.156m Unload the specimen

ACOU	D-E_9(0323
	A Terting Set
48	1.2 測試資料設定 Print Help Update Exit
	1. 試件名稱 GT A-RIG SBA30 Copea
	2. 標點距離 對100.00 mm
1	3. 試件斷面形狀 4.不規則斷面 🗸
	a. 斷面面積 第301.5929 mm*2
603	4. 起始荷重 1.000 kgf 起始荷重歸零 All Zero 💌
400	5. 最大荷重 第2000.00 kg/ ■ 進階報告顯示設定
	6. 終點荷重 第50.00 % 三 進階測試條件設定
	7. 最大伸長 第500.00 mm 測試前歸零 All Zero 🖌
	8. 求取降伏點 係數選擇 a. 參考點 P1 b. 參考點 P2 c. 偏移比例
10 Granh	YES 操氏保教 0.30 第0.45 第0.20 %
None	K(面對影) 🕴 5
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Apply a test load of 2000kg



Distance is 0.157m after loaded deformation of the specimen at five minutes



Distance is 0.156m Unload the specimen



Apply a test load of 8000kg



Distance is 0.160m





The eye bolt are obviously elongated, others No obvious deformation



Distance is 0.157m Unload the specimen

Testing Tables

Load Step	Load(N)	Loaded Deformation(mm)	Time Held(s)	Pass/Fail	Unloaded Deformation
1	7500	1	300	Pass	No obvious deformation
2	15000	1	300	Pass	No obvious deformation
3	20000	1	300	Pass	No obvious deformation
Test until failure	80000	4	300	Fail	Eye bolt deformation

2016.06.08

TEST REPORT FOR F33-34 Truss suspension bracket



Below picture for show the statement of the conditions of testing

Before apply a test load, distance between plate and screw is 0.163m

the test results for specimen as described above in the testing

procedure pictures



Apply a test load of 750kg



Distance is 0.163m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen





Apply a test load of 1500kg



Distance is 0.163m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen

3 4 5	2.標點距離 3.試件斷面形狀	■100.00 mm 4.不規則斷面 ▼			
800	a. 斷面面積	#301.5929 mm ²	<i>t</i> h		
600	4. 起始荷重	\$1.000 kgf	起始荷重歸零	All Zero 💌	
200	5. 最大荷重	#8000 kgf	■ 進階-報告顯	标設定	
0.0	6. 終點荷重	\$50.00 %	■ 進階-測試條	件設定	
	7. 最大伸長	∯500.00 mm	測試前歸零	All Zero 🖌	
7商	8. 求取降伏點	係數選擇 a. 參考點 P	1 b. 参考點 P2 c	。偏移比例	
IC Graph[None	YES	楊氏係數 ▼ 0.30 K値點數 5	0.45	0.20 %	
@C002	最大測試時間	00:22:10 HH-MM-SS	第 1] 資料儲計	穿比例	
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Apply a test load of 8000kg



Distance is 0.167m



The eye bolt are obviously elongated, others No obvious deformation



Distance is 0.163m Unload the specimen

Testing Tables

Load Step	Load(N)	Loaded	Time	Pass/Fail	Unloaded
		Deformation(mm)	Held(s)		Deformation
1	7500	0	300	Pass	No obvious
					deformation
2	15000	0	300	Pass	No obvious
					deformation
Test until	80000	4	300	Pass	Eye bolt
failure					deformation

2016.06.07

TEST REPORT FOR F43-44 Truss suspension bracket



Below picture for show the statement of the conditions of testing



Before apply a test load, distance between plate and screw is 0.163m

the test results for each specimen as described above in the testing procedure pictures



ADDA		
	NO2-F 96033	6
	A Testing Sel Pc P9 Re Exit 1.2 測試資料設定 Print Help Update Exit	1
	1. 試件名稱 GT A FRIG-SBF 40 ▲ Open 2. 標點距離 150.00 mm 3. 試件斷面形狀 4.不規則斷面 小 0. 斷面面積 301.5929 mm*2	
Explore SERVICE SERVICE REPORT	02 03 04 04 05 05 05 05 05 05 05 05 05 05	
	YES 根氏保健 1.0.30 0.45 0.20 % OmpM K(由型記書) 5	
COUPED 7世历史	Ralet	

Apply a test load of 750kg



Distance is 0.164m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen



Apply a test load of 1500kg



Distance is 0.164m after loaded deformation of the specimen at five minutes





Distance is 0.163m Unload the specimen



Apply a test load of 8000kg



Distance is 0.168m



The eye bolt are obviously elongated, others No obvious deformation



Distance is 0.163m Unload the specimen

Testing Tables

Load Step	Load(N)	Loaded Deformation(mm)	Time Held(s)	Pass/Fail	Unloaded Deformation
1	7500	1	300	Pass	No obvious deformation
2	15000	1	300	Pass	No obvious deformation
Test until failure	80000	5	300	Pass	Eye bolt deformation

2016.05.31

TEST REPORT FOR F54 Truss suspension bracket



Below picture for show the statement of the conditions of testing



Before apply a test load, distance between plate and screw is 0.163m

the test results for each specimen as described above in the testing procedure pictures



Apply a test load of 750kg



Distance is 0.163m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen





Apply a test load of 1500kg



Distance is 0.164m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen



Apply a test load of 2000kg



Distance is 0.165m after loaded deformation of the specimen at five minutes



Distance is 0.163m Unload the specimen





Apply a test load of 8000kg



Distance is 0.179m









The eye bolt elongated, and the tube break



Distance is 0.176m Unload the specimen

Testing Tables

Load Step	Load(N)	Loaded Deformation(mm	Time Held(s)	Pass/Fail	Unloaded Deformatio
1	7500) O	300	Pass	n No obvious deformatio
2	15000	1	300	Pass	n No obvious deformatio
3	20000	2	300	Pass	n No obvious deformatio
Test until failure	80000	16	300	Fail	n Eye bolt deformatio n and tube

2016.06.07