

20 May 2008  
Ref: ST0515

Design Quintessence  
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## RE: Load Tables for F102 Folding Truss

We have been asked to analyse the proposed F104 Square Truss and provide a set of load tables.

### Summary

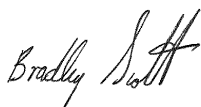
Chord Members	6082 T6	$\phi 50 \times 4\text{mm}$		
Diagonals	6082 T6	$\phi 48 \times 3\text{mm}$		
Coupler	6082 T6			
Spigot	2011T6			
Pins	Fup	565 MPa	Fyp	310MPa

Allowable Normal Force in Main Chord	50.6kN
Allowable Normal Force in Diagonals	37.0kN
Moment of Inertia X axis	522.3E6 mm <sup>4</sup>
Moment of Inertia Y axis	80.6E6 mm <sup>4</sup>
Allowable Bending Moment	96.1 kNm
Allowable Shear Force Chord	34.0kN (per Chord)
Allowable Shear Force Diagonals	24.0kN
Dead weight of Truss	18kg/m

### Assumptions:

1. Frame has not been designed to resist wind loads
2. The loads specified are in addition to self weight loads
3. All loads are to be applied to the bottom chord of the frame
4. Trusses are to be connected using standard connectors supplied by manufacturer.
5. Spans need to be supported at each end.
6. No loads are to be applied to the snap brace.

Yours faithfully



Bradley Scott  
BE(Hons) MIE(Aust) CPEng NPER

## F102 Folding Truss

Span mm	UDL		Span mm	PL	
	Summary LL kg/m	Def mm		Summary LL kg	Def mm
2400	3833	0	2400	9167	1
4800	1906	4	4800	5441	3
7200	993	10	7200	3627	8
9600	552	17	9600	2720	14
12000	348	27	12000	2176	23
14400	238	39	14400	1813	33
16800	171	53	16800	1554	47
19200	127	70	19200	1360	63
21600	98	89	21600	1209	83
24000	76	110	24000	1088	106
26400	61	135	26400	989	134
28800	49	163	28800	907	166
31200	39	191	31200	837	204
33600	32	225	33600	777	247
36000	26	261	36000	725	298

Note: Maximum central point load between any nodes 221kg

TABLE 1