

2 September 2008
Ref: ST0310

Design Quintessence
Attention: Ian Wood
Unit 25
7-9 Percy Street
Auburn NSW 2144

RE: Load Tables for A33 Tri Truss

We have been asked to analyse the proposed A33 Tri Truss and provide a set of load tables.

Summary


Chord Members	6082 T6	φ50 x 3mm CHS
End Bracing	6082 T6	φ32 x 32 x 6mm SHS
Diagonals	6082 T6	φ20 x 2mm CHS
Coupler	6082 T6	
Bolts	4M12 8.8/S	830MPa

Allowable Normal Force in Main Chord	38.7kN
Allowable Normal Force in Diagonals	9.9kN
Moment of Inertia X axis	20.30E6 mm ⁴
Moment of Inertia Y axis	20.30E6 mm ⁴
Allowable Bending Moment	9.95 kNm (limited by bolting)
Allowable Shear Force Chord	26.0kN (per Chord)
Allowable Shear Force Diagonals	5.6kN
Dead weight of Truss	6 kg/m (Approx for larger spans)

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.

Yours faithfully



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

A33 Tri Truss (Apex Up)

Span mm	UDL		Span mm	PL	
	Summary LL kg/m	Def mm		Summary LL kg	Def mm
500	765	0	500	763	0
1000	765	0	1000	762	0
1500	754	0	1500	761	0
2000	754	1	2000	760	1
2500	754	3	2500	758	2
3000	596	4	3000	757	3
3500	437	6	3500	756	5
4000	333	8	4000	667	6
5000	212	12	5000	529	10
6000	146	18	6000	436	14
7000	106	24	7000	370	20
8000	80	32	8000	319	26
9000	62	41	9000	279	33
10000	49	50	10000	246	41
11000	40	61	11000	219	50
12000	33	73	12000	197	61

TABLE 1

A33 Tri Truss (Apex Down)

Span mm	UDL		Span mm	PL	
	Summary LL kg/m	Def mm		Summary LL kg	Def mm
500	765	0	500	763	0
1000	765	0	1000	762	0
1500	754	0	1500	761	0
2000	754	1	2000	760	1
2500	754	3	2500	758	2
3000	596	4	3000	757	3
3500	437	6	3500	756	5
4000	333	8	4000	667	6
5000	212	12	5000	529	10
6000	146	18	6000	436	14
7000	106	24	7000	370	20
8000	80	32	8000	319	26
9000	62	41	9000	279	33
10000	49	50	10000	246	41
11000	40	61	11000	219	50
12000	33	73	12000	197	61

TABLE 2