

5 November 2007

Ref: ST0501

Design Quintessence
Attention: Ian Wood
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RE: Load Tables for F32 Truss

We have been asked to analyse the proposed F32 Truss and provide a set of load tables.

Summary

Chord Members	6082 T6	$\phi 50 \times 2\text{mm}$
Bracing	6082 T6	$\phi 20 \times 2\text{mm}$
Diagonals	6082 T6	$\phi 20 \times 2\text{mm}$
Coupler	6082 T6	
Spigot	2011T6	
Pins	Fup 565 MPa	Fyp 310MPa

	$\phi 50 \times 2\text{mm}$ Truss
Allowable Normal Force in Main Chord	26.4kN
Allowable Normal Force in Bracing	9.9kN
Moment of Inertia X axis	8.86E6 mm ⁴
Moment of Inertia Y axis	0.174E6 mm ⁴
Allowable Bending Moment	Varies based on span

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
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Truss Type 1: $\phi 50 \times 2\text{mm}$ Chords

Loaded on Bottom Chord

UDL		
Span	LL	Def
mm	kg/m	mm
1000	846	0
2000	418	1
3000	218	4
4000	95	5
5000	43	6
6000	20	6

PL		
Span	LL	Def
mm	kg	mm
1000	845	0
2000	623	2
3000	345	3
4000	202	4
5000	114	5
6000	53	4

TABLE 1

Loaded on Top Chord

UDL		
Span	LL	Def
Mm	kg/m	mm
1000	846	0
2000	418	1
3000	196	3
4000	78	4
5000	32	4
6000	15	5

PL		
Span	LL	Def
mm	kg	mm
1000	845	0
2000	596	2
3000	317	3
4000	175	4
5000	86	4
6000	30	3

TABLE 2