

19 July 2010  
Ref: ST0587

**Design Quintessence**  
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## RE: Load Tables for A34 Truss

We have been asked to analyse the proposed A34 Truss and provide a set of load tables.

### Summary

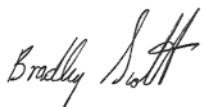
|               |                                                      |               |     |
|---------------|------------------------------------------------------|---------------|-----|
| Chord Members | 6082 T6                                              | φ50 x 3mm     | CHS |
| Bracing       | 6082 T6                                              | φ20 x 2mm     | CHS |
| Diagonals     | 6082 T6                                              | 32 x 32 x 6.0 | SHS |
| Coupler       | 6082 T6                                              |               |     |
| Bolts         | 4 High Strength ½" bolts (f <sub>ut</sub> = 1034MPa) |               |     |

|                                      |                        |
|--------------------------------------|------------------------|
|                                      | φ50 x 3mm Truss        |
| Allowable Normal Force in Main Chord | 38.8kN                 |
| Allowable Bending Stress in a Chord  | 114MPa                 |
| Allowable Normal Force in Diagonals  | 9.9kN                  |
| Moment of Inertia Y axis             | 40.4E6 mm <sup>4</sup> |
| Allowable Bending Moment             | 23.3kNm                |
| Allowable Shear Force                | 26.0kN                 |

### Assumptions:

1. The loads specified are in addition to self-weight loads.
2. All loads are to be applied to the bottom chord of the frame.
3. Load capacities make no allowances for wind loads.
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**

### **Allowable Loads on A34 Truss**

| UDL   |      |     | PL    |      |     |
|-------|------|-----|-------|------|-----|
| Span  | LL   | Def | Span  | LL   | Def |
| mm    | kg/m | mm  | mm    | kg   | mm  |
| 3000  | 1223 | 5   | 3000  | 1045 | 2   |
| 4000  | 776  | 9   | 4000  | 1045 | 5   |
| 5000  | 491  | 15  | 5000  | 1045 | 10  |
| 6000  | 337  | 21  | 6000  | 1010 | 17  |
| 7000  | 244  | 29  | 7000  | 852  | 23  |
| 8000  | 183  | 38  | 8000  | 732  | 31  |
| 9000  | 142  | 48  | 9000  | 637  | 39  |
| 10000 | 112  | 59  | 10000 | 560  | 49  |
| 11000 | 90   | 72  | 11000 | 495  | 60  |
| 12000 | 73   | 86  | 12000 | 440  | 73  |
| 13000 | 60   | 102 | 13000 | 393  | 87  |
| 14000 | 50   | 119 | 14000 | 351  | 102 |
| 15000 | 42   | 139 | 15000 | 313  | 119 |

**TABLE 1**