

Material Specification	Grade 6082 T6 Aluminium Alloy
Loading Specification	For simply supported single X-Beams to Eurocode EN 1991-1/BS EN 8118. All load values are working loads. All load values are based on the compression chords restrained at 1.0m centres.

Overall Graded Results for Allowable Working Loads

Compression chord restraint at 1.0m intervals

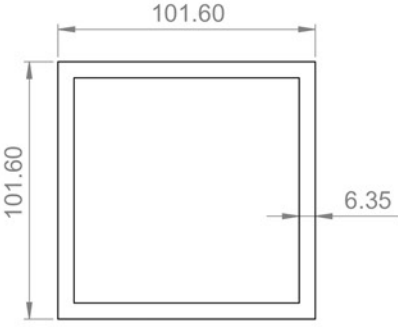

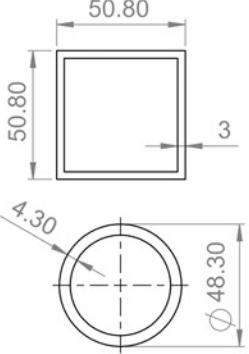
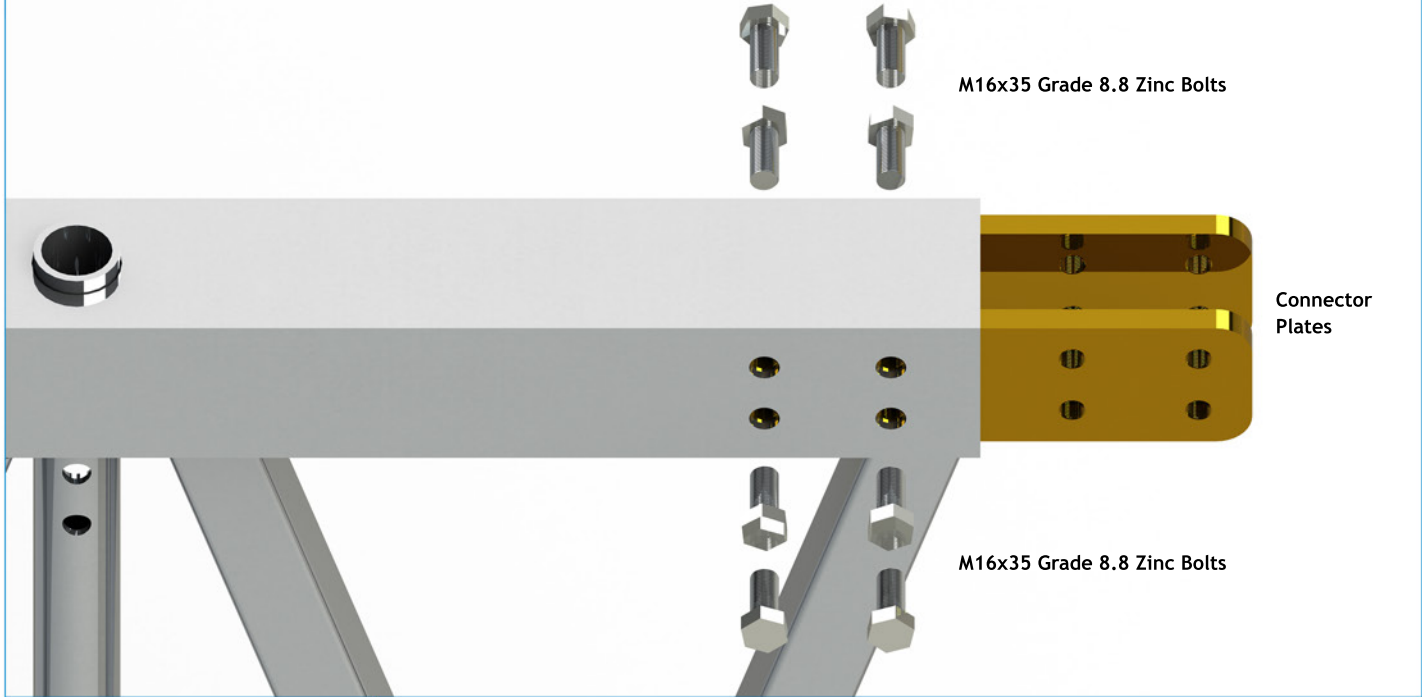
		Span (m)			
		12	18	24	36
Allowable Bending Moment	kNm	287.4	300.0	298.5	286.0
Allowable Shear (Load on vertical)	kN	97.0	79.5	74.5	67.0

Weight	28.0kg/m
Area	4838mm ²
I _x	2.73x10 ⁹ mm ⁴
I _y	7.35x10 ⁶ mm ⁴
C _x	1399mm
C _y	50.8mm
E	7x10 ⁴ N/mm ²
EI	191.1N/mm ²

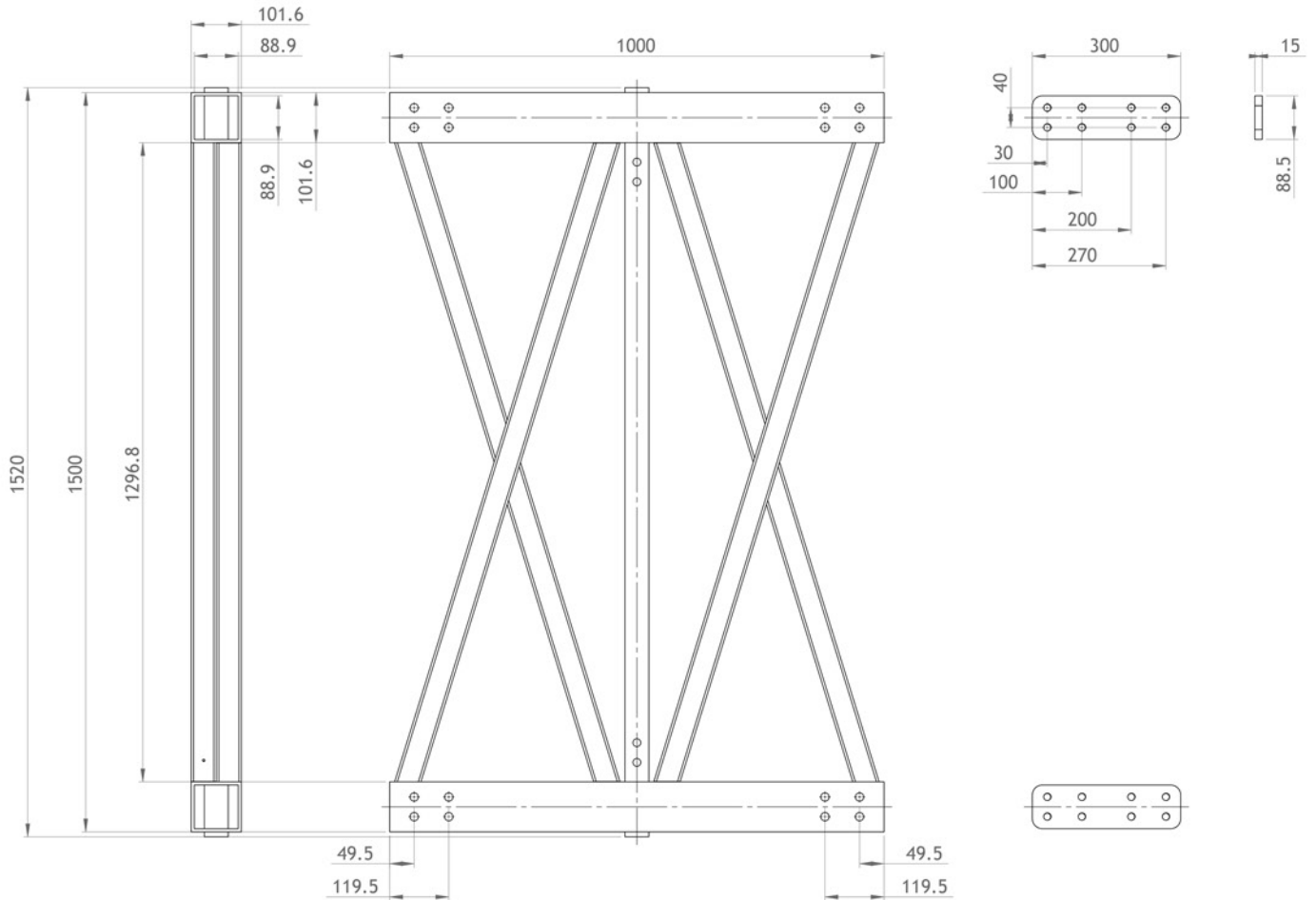
Type of Loading		Span (m)												
		12	14	16	18	20	22	24	26	28	30	32	34	36
Uniformly distributed load	kN/m	16.0	11.7	9.0	7.4	6.0	4.9	4.1	3.4	2.9	2.5	2.2	2.0	2.0
Total UDL	kN	191.6	164.2	143.8	133.3	119.4	108.5	99.5	88.0	81.7	76.3	71.5	67.3	64.0
Single point load	kN	95.8	82.1	71.9	66.7	59.7	54.3	49.8	44.0	40.9	38.1	35.8	33.6	32.0
Two point loads	Each kN	71.8	61.6	53.9	50.0	44.8	40.7	37.3	33.0	30.6	28.6	26.8	25.2	24.0
Three point loads	Each kN	47.9	41.1	35.9	33.3	29.9	27.1	24.9	22.0	20.4	19.1	17.9	16.8	16.0

- Notes:**
- Above allowable loads can be increased by 1.11 for wind load only cases.
 - The tables above for single and two point locations assume all loads are applied at beam node points.
 - The tables above for UDL and three point load conditions make an allowance for local bending.
 - If the restraint of the beam compression chords does not comply with 1.0m centres, further design checks are required.
 - Allowable loads take into account the self weight of the beam.
 - The tables above are based on the support conditions for the beams to occur at a beam node point.
All beams are assumed simply supported.
 - Supporting calculations are based on BS EN 1999-1-2 A2.
 - Maximum capacity of a point load mid-way between nodes is 45kN, but overall buckling of the top chord should be checked if loads are placed other than at restrained loads.
 - Factor of Safety 1.65.
 - Permissible loads calculated in accordance with EN 1999-1-1:2007 and obtained through physical testing to EN 12811 Part 3.
 - X-beam top and bottom booms are to be restrained at 1.0m c/c's.

Additional Information	Our welders are qualified to: EN 287-1 AS/NZS 1665 2004 BS EN 9606-2 2004 ISO 5817 2007 Welding and material test certs available on request. Apollo Scaffold Services are accredited to EN 1090-1:2009+A1:2011 - Execution of steel structures and aluminium structures (0086-CPR-637568). The manufacture (including welding) of structural work in steel and aluminium up to and including Execution Class 2 (EXC 2) as defined in EN 1090-2 and EN 1090-3. Full set of calculations available on Apollo Scaffold Services website: apolloscaffoldservices.co.uk
Disclaimer	Apollo Scaffold Services Ltd. advise on using a qualified structural engineer to design any project using aluminium beams.

Material Specification	Grade 6082 T6 Aluminium Alloy
Dimension Specification	Main Boom: 101.6mm x 101.6mm x 6.35mm wall thickness Vertical: 48.3mm dia. x 4.2-4.4mm wall thickness / Diagonal: 50.8mm x 50.8mm x 3mm wall thickness.
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>Main Boom</p> </div> <div style="text-align: center;"> <p style="color: red;">If markings are not present then specification is invalid.</p>  <ol style="list-style-type: none"> 1. BS / EN Mark 2. Serial number 3. Manufacturing date </div> <div style="text-align: center;">  <p>Diagonals/Verticals</p> </div> </div>	
Fixing Specification	M16x35 Grade 8.8 Zinc Plated Bolts
	
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Key Dimensions	Dimensions of Beam and Spigot Connection
Standard Beam Lengths	1000mm / 2000mm / 3000mm



Spigot connections can be introduced at any location in a beam span and don't impact on the beam capacities quoted

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