

### XBEAM

## Aluminium Structural Beam



#### PRODUCT DESCRIPTION

Monkeytoe Xbeam system is a revolutionary lightweight configurable beam which can be utilised in a range of scenarios where weight is an issue.

#### TYPICAL USES / APPLICATIONS

- Bridges/gantry's
- Long span external access and mounting systems
- Internal raised access systems where minimal support points are available.
- Mezzanine floor support structure
- Stair systems
- Earthquake strengthening in buildings
- Any structure where weight is an issue

#### CHARACTERISTICS / ADVANTAGES (BEAM)

- Lightweight – Up to 65% lighter than steel equivalent; less loading on supporting structure
- No surface coating requirements for corrosion protection
- Low deflection for superior acoustic performance
- Configurable for a range of scenarios

#### TECHNICAL DATA / MATERIALS

- High tensile T6 Aluminium
- Carbon fibre pultrusion's manufactured in NZ
- Fixings - Dacromet, Zinc based coated Fixings. Coating exceeds durability of hot dip galvanizing and designed for Aluminium connections

#### TESTS

#### APPROVALS / STANDARDS

- Fully documented third party testing to ensure compliance to the building code. These included deflection, horizontal, load and temperature and durability

#### WARRANTY

- 25 years and 2 years install
- Product Warranty is valid in accordance to the PS1 Engineering Standard that it has been designed to

#### MAINTENANCE

- It is recommended that all plant platforms and access systems are included in the standard warrant of fitness
- All damage of loose fixings are to be reported to the building manager

UNIFORMLY DISTRIBUTED DESIGN LOAD CAPACITY (KN/M) WITH SIMPLY SUPPORTED CONDITIONS + FULL LATERAL RESTRAINT.  
0.5 - 7.5m spans

Member	kg/m	Span in metres (m)														
		0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
XB250.000	11.21	279	139	93.20	69.90	55.90	44.00	32.30	24.70	19.50	15.70	13.00	10.90	9.29	8.00	6.95
XB250.025	12.17	279	139	93.20	69.90	55.90	46.60	39.90	34.90	29.80	24.10	19.90	16.70	14.20	12.20	10.60
XB250.050	13.13	279	139	93.20	69.90	55.90	46.60	39.90	34.90	31.00	27.90	25.30	22.10	18.80	16.20	14.10
XB250.075	14.09	279	139	93.20	69.90	55.90	46.50	39.90	34.90	31.00	27.90	25.30	23.20	21.40	19.80	17.20
XB250.100	15.05	279	139	93.20	69.90	55.90	46.50	39.90	34.90	31.00	27.90	25.30	23.20	21.40	19.90	18.50
XB250.125	16.01	279	139	93.20	69.90	55.90	46.50	39.90	34.90	31.00	27.90	25.30	23.20	21.40	19.90	18.50
XB250.150	16.97	279	139	93.20	69.90	55.90	46.50	39.90	34.90	31.00	27.90	25.30	23.20	21.40	19.90	18.50
XB400.000	15.28	479	239	159	119	95.90	79.90	62.80	48.10	37.90	30.70	25.30	21.30	18.10	15.60	13.50
XB400.025	16.24	479	239	159	119	95.90	79.90	68.40	59.90	53.20	43.90	36.20	30.40	25.90	22.30	19.40
XB400.050	17.20	479	239	159	119	95.90	79.90	68.40	59.90	53.20	47.90	43.50	39.00	33.20	28.60	24.90
XB400.075	18.16	479	239	159	119	95.90	79.90	68.40	59.90	53.20	47.90	43.50	39.90	36.80	34.10	30.10
XB400.100	19.12	479	239	159	119	95.90	79.90	68.40	59.90	53.20	47.90	43.50	39.90	36.80	34.10	31.90
XB400.125	20.08	479	239	159	119	95.90	79.90	68.40	59.90	53.20	47.90	43.50	39.90	36.80	34.10	31.90
XB400.150	21.04	479	239	159	119	95.80	79.80	68.40	59.80	53.20	47.80	43.50	39.80	36.80	34.10	31.80
XB550.000	19.35	719	359	239	179	143	119	102	79.89	63.09	51.06	42.17	35.40	30.14	25.96	22.59
XB550.025	20.31	719	359	239	179	143	119	102	89.90	79.90	68.92	56.92	47.80	40.70	35.06	30.52
XB550.050	21.27	719	359	239	179	143	119	102	89.80	79.80	71.80	65.30	59.54	50.70	43.69	38.03
XB550.075	22.23	719	359	239	179	143	119	102	89.80	79.80	71.80	65.30	59.80	55.20	51.30	45.16
XB550.100	23.19	719	359	239	179	143	119	102	89.80	79.80	71.80	65.30	59.80	55.20	51.30	47.80
XB550.125	24.15	719	359	239	179	143	119	102	89.80	79.80	71.80	65.30	59.80	55.20	51.30	47.80
XB550.150	25.11	719	359	239	179	143	119	102	89.80	79.80	71.80	65.30	59.80	55.20	51.30	47.80

\*Bold line indicates difference between shear and bending failure mode.

8.0 - 15.0m spans

Member	kg/m	Span in metres (m)														
		8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
XB250.000	11.21	6.10	5.39	4.79	4.29	3.86	3.49	3.17	2.89	2.65	2.43	2.24	2.07	1.91	1.78	1.65
XB250.025	12.17	9.37	8.29	7.38	6.61	5.95	5.39	4.90	4.47	4.10	3.77	3.47	3.21	2.98	2.77	2.58
XB250.050	13.13	12.30	10.90	9.76	8.75	7.88	7.14	6.49	5.93	5.43	5.00	4.61	4.26	3.96	3.68	3.43
XB250.075	14.09	15.10	13.40	11.90	10.70	9.66	8.75	7.96	7.27	6.67	6.13	5.66	5.24	4.86	4.52	4.22
XB250.100	15.05	17.40	15.70	13.90	12.50	11.30	10.20	9.32	8.51	7.80	7.18	6.63	6.13	5.69	5.30	4.94
XB250.125	16.01	17.40	16.30	15.40	14.20	12.80	11.60	10.50	9.65	8.85	8.14	7.52	6.96	6.46	6.01	5.61
XB250.150	16.97	17.40	16.30	15.40	14.60	13.90	12.80	11.70	10.70	9.81	9.03	8.33	7.72	7.16	6.67	6.22
XB400.000	15.28	11.90	10.50	9.38	8.40	7.57	6.85	6.23	5.68	5.21	4.79	4.41	4.08	3.78	3.52	3.28
XB400.025	16.24	17.00	15.10	13.40	12.00	10.80	9.84	8.95	8.17	7.49	6.89	6.36	5.89	5.46	5.08	4.74
XB400.050	17.20	21.90	19.30	17.20	15.40	13.90	12.60	11.50	10.50	9.64	8.87	8.19	7.58	7.04	6.55	6.11
XB400.075	18.16	26.40	23.40	20.80	18.70	16.80	15.20	13.90	12.70	11.60	10.70	9.90	9.17	8.51	7.93	7.39
XB400.100	19.12	29.90	27.20	24.20	21.70	19.60	17.70	16.10	14.70	13.50	12.40	11.50	10.60	9.91	9.22	8.61
XB400.125	20.08	29.90	28.10	26.50	24.60	22.10	20.10	18.20	16.70	15.30	14.10	13.00	12.00	11.20	10.40	9.74
XB400.150	21.04	29.80	28.10	26.50	25.10	23.80	22.20	20.20	18.50	17.00	15.60	14.40	13.40	12.40	11.50	10.80
XB550.000	19.35	19.83	17.54	15.63	14.01	12.62	11.43	10.40	9.50	8.71	8.01	7.39	6.84	6.35	5.90	5.50
XB550.025	20.31	26.80	23.72	21.13	18.95	17.08	15.47	14.08	12.87	11.80	10.86	10.03	9.28	8.62	8.02	7.48
XB550.050	21.27	33.40	29.56	26.35	23.62	21.30	19.30	17.57	16.06	14.73	13.56	12.52	11.59	10.77	10.02	9.35
XB550.075	22.23	39.66	35.11	31.29	28.06	25.31	22.93	20.88	19.08	17.51	16.12	14.89	13.79	12.80	11.92	11.13
XB550.100	23.19	44.80	40.38	35.99	32.28	29.11	26.38	24.02	21.95	20.14	18.55	17.13	15.87	14.74	13.73	12.81
XB550.125	24.15	44.80	42.20	39.80	36.28	32.72	29.65	27.00	24.68	22.65	20.85	19.26	17.84	16.58	15.44	14.41
XB550.150	25.11	44.80	42.20	39.80	37.70	35.80	32.76	29.82	27.27	25.02	23.04	21.28	19.72	18.32	17.06	15.93

\*Bold line indicates difference between shear and bending failure mode.



UNIFORMLY DISTRIBUTED DESIGN LOAD CAPACITY(KN/M) FOR L/250 DEFLECTION. SIMPLY SUPPORTED CONDITIONS  
+ FULL LATERAL RESTRAINT.

## 2.5 - 8.5m spans

Member	kg/m	Span in metres (m)												
		2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
<b>XB250.000</b>	11.21	41.7	24.1	15.2	10.2	7.15	5.21	3.91	3.02	2.37	1.90	1.54	1.27	1.06
<b>XB250.025</b>	12.17		37.8	23.8	15.9	11.2	8.16	6.13	4.72	3.71	2.97	2.42	1.99	1.66
<b>XB250.050</b>	13.13			32.1	21.5	15.1	11.0	8.27	6.37	5.01	4.01	3.26	2.69	2.24
<b>XB250.075</b>	14.09				26.8	18.8	13.7	10.3	7.95	6.25	5.01	4.07	3.35	2.80
<b>XB250.100</b>	15.05				31.9	22.4	16.3	12.3	9.46	7.44	5.96	4.84	3.99	3.33
<b>XB250.125</b>	16.01					25.9	18.8	14.2	10.9	8.58	6.87	5.59	4.60	3.84
<b>XB250.150</b>	16.97					29.1	21.2	16.0	12.3	9.66	7.74	6.29	5.18	4.32
<b>XB400.000</b>	15.28		78.5	49.4	33.1	23.3	17.0	12.7	9.81	7.72	6.18	5.02	4.14	3.45
<b>XB400.025</b>	16.24				48.5	34.0	24.8	18.6	14.4	11.3	9.05	7.35	6.06	5.05
<b>XB400.050</b>	17.20					44.5	32.4	24.4	18.8	14.8	11.8	9.61	7.92	6.60
<b>XB400.075</b>	18.16						39.8	29.9	23.0	18.1	14.5	11.80	9.72	8.10
<b>XB400.100</b>	19.12						46.9	35.3	27.2	21.4	17.1	13.91	11.46	9.55
<b>XB400.125</b>	20.08							40.6	31.3	24.6	19.7	16.02	13.20	11.00
<b>XB400.150</b>	21.04								35.3	27.7	22.2	18.06	14.88	12.41
<b>XB550.000</b>	19.35				75.8	53.3	38.8	29.2	22.5	17.7	14.2	11.51	9.48	7.90
<b>XB550.025</b>	20.31					73.8	53.8	40.4	31.1	24.5	19.6	15.95	13.14	10.95
<b>XB550.050</b>	21.27						68.6	51.5	39.7	31.2	25.0	20.32	16.74	13.96
<b>XB550.075</b>	22.23							62.2	47.9	37.7	30.2	24.54	20.22	16.86
<b>XB550.100</b>	23.19								56.2	44.2	35.4	28.76	23.70	19.76
<b>XB550.125</b>	24.15									50.4	40.4	32.84	27.06	22.56
<b>XB550.150</b>	25.11										45.4	36.92	30.42	25.36

\*Values under bold line do not reach deflection limit prior to shear/bending failure.

## 9.0 - 15.0m spans

Member	kg/m	Span in metres (m)												
		9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
<b>XB250.000</b>	11.21	0.89	0.76	0.65	0.56	0.49	0.43	0.38	0.33	0.30	0.26	0.24	0.21	0.19
<b>XB250.025</b>	12.17	1.40	1.19	1.02	0.88	0.77	0.67	0.59	0.52	0.46	0.41	0.37	0.33	0.30
<b>XB250.050</b>	13.13	1.89	1.61	1.38	1.19	1.03	0.90	0.80	0.70	0.63	0.56	0.50	0.45	0.41
<b>XB250.075</b>	14.09	2.36	2.00	1.72	1.48	1.29	1.13	0.99	0.88	0.78	0.70	0.63	0.56	0.51
<b>XB250.100</b>	15.05	2.80	2.38	2.04	1.76	1.53	1.34	1.18	1.05	0.93	0.83	0.74	0.67	0.61
<b>XB250.125</b>	16.01	3.23	2.75	2.36	2.04	1.77	1.55	1.36	1.21	1.07	0.96	0.86	0.77	0.70
<b>XB250.150</b>	16.97	3.64	3.10	2.65	2.29	1.99	1.75	1.54	1.36	1.21	1.08	0.97	0.87	0.79
<b>XB400.000</b>	15.28	2.91	2.47	2.12	1.83	1.59	1.39	1.23	1.09	0.96	0.86	0.77	0.70	0.63
<b>XB400.025</b>	16.24	4.26	3.62	3.10	2.68	2.33	2.04	1.80	1.59	1.41	1.26	1.13	1.02	0.92
<b>XB400.050</b>	17.20	5.56	4.73	4.06	3.50	3.05	2.67	2.35	2.08	1.85	1.65	1.48	1.33	1.20
<b>XB400.075</b>	18.16	6.83	5.80	4.98	4.30	3.74	3.27	2.88	2.55	2.27	2.02	1.81	1.63	1.47
<b>XB400.100</b>	19.12	8.05	6.84	5.87	5.07	4.41	3.86	3.40	3.00	2.67	2.38	2.14	1.92	1.74
<b>XB400.125</b>	20.08	9.27	7.88	6.76	5.84	5.08	4.44	3.91	3.46	3.08	2.75	2.46	2.22	2.00
<b>XB400.150</b>	21.04	10.45	8.89	7.62	6.58	5.72	5.01	4.41	3.90	3.47	3.10	2.78	2.50	2.26
<b>XB550.000</b>	19.35	6.66	5.66	4.85	4.19	3.65	3.19	2.81	2.49	2.21	1.97	1.77	1.59	1.44
<b>XB550.025</b>	20.31	9.23	7.85	6.73	5.81	5.05	4.42	3.89	3.44	3.06	2.73	2.45	2.21	1.99
<b>XB550.050</b>	21.27	11.76	10.00	8.57	7.40	6.44	5.64	4.96	4.39	3.90	3.48	3.12	2.81	2.54
<b>XB550.075</b>	22.23	14.20	12.07	10.35	8.94	7.78	6.81	5.99	5.30	4.71	4.21	3.77	3.40	3.07
<b>XB550.100</b>	23.19	16.65	14.15	12.13	10.48	9.12	7.98	7.02	6.21	5.52	4.93	4.42	3.98	3.60
<b>XB550.125</b>	24.15	19.01	16.16	13.85	11.97	10.41	9.11	8.02	7.09	6.31	5.63	5.05	4.54	4.11
<b>XB550.150</b>	25.11	21.36	18.17	15.58	13.45	11.70	10.24	9.01	7.97	7.09	6.33	5.68	5.11	4.61

\*Values under bold line do not reach deflection limit prior to shear/bending failure.



UNIFORMLY DISTRIBUTED DESIGN LOAD CAPACITY(KN/M) FOR L/300 DEFLECTION. SIMPLY SUPPORTED CONDITIONS  
+ FULL LATERAL RESTRAINT.

## 2.5 - 8.5m spans

Member	kg/m	Span in metres (m)												
		2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
<b>XB250.000</b>	11.21	34.7	20.1	12.7	8.48	5.96	4.34	3.26	2.51	1.98	1.58	1.29	1.06	0.884
<b>XB250.025</b>	12.17	54.4	31.5	19.8	13.3	9.33	6.80	5.11	3.93	3.09	2.48	2.01	1.66	1.38
<b>XB250.050</b>	13.13		42.5	26.7	17.9	12.6	9.18	6.89	5.31	4.18	3.34	2.72	2.24	1.87
<b>XB250.075</b>	14.09			33.4	22.4	15.7	11.4	8.60	6.63	5.21	4.17	3.39	2.80	2.33
<b>XB250.100</b>	15.05			39.7	26.6	18.7	13.6	10.2	7.88	6.20	4.96	4.04	3.33	2.77
<b>XB250.125</b>	16.01				30.7	21.5	15.7	11.8	9.09	7.15	5.72	4.65	3.84	3.20
<b>XB250.150</b>	16.97				34.6	24.3	17.7	13.3	10.2	8.05	6.45	5.24	4.32	3.60
<b>XB400.000</b>	15.28		65.4	41.2	27.6	19.4	14.1	10.6	8.18	6.43	5.15	4.19	3.45	2.88
<b>XB400.025</b>	16.24			60.3	40.4	28.4	20.7	15.5	12.0	9.42	7.54	6.13	5.05	4.21
<b>XB400.050</b>	17.20				52.8	37.1	27.0	20.3	15.6	12.3	9.85	8.01	6.60	5.50
<b>XB400.075</b>	18.16					45.5	33.2	24.9	19.2	15.1	12.1	9.83	8.10	6.75
<b>XB400.100</b>	19.12						39.1	29.4	22.6	17.8	14.3	11.6	9.55	7.96
<b>XB400.125</b>	20.08						45.1	33.9	26.1	20.5	16.4	13.3	11.0	9.17
<b>XB400.150</b>	21.04							38.2	29.4	23.1	18.5	15.0	12.4	10.3
<b>XB550.000</b>	19.35			94.3	63.2	44.4	32.4	24.3	18.7	14.7	11.8	9.59	7.90	6.59
<b>XB550.025</b>	20.31				87.6	61.5	44.9	33.7	26.0	20.4	16.3	13.3	11.0	9.13
<b>XB550.050</b>	21.27					78.4	57.1	42.9	33.1	26.0	20.8	16.9	14.0	11.6
<b>XB550.075</b>	22.23						69.0	51.9	39.9	31.4	25.2	20.4	16.9	14.0
<b>XB550.100</b>	23.19							60.8	46.8	36.8	29.5	24.0	19.8	16.5
<b>XB550.125</b>	24.15								53.5	42.0	33.7	27.4	22.6	18.8
<b>XB550.150</b>	25.11									47.3	37.8	30.8	25.4	21.1

\*Values under bold line do not reach deflection limit prior to shear/bending failure.

## 9.0 - 15.0m spans

Member	kg/m	Span in metres (m)												
		9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
<b>XB250.000</b>	11.21	0.744	0.633	1.543	0.469	0.408	0.357	0.314	0.278	0.247	0.221	0.198	0.178	0.161
<b>XB250.025</b>	12.17	1.17	0.991	0.850	0.734	0.639	0.559	0.492	0.435	2.387	0.345	0.310	0.279	0.252
<b>XB250.050</b>	13.13	1.57	1.34	1.15	0.991	0.862	0.754	0.664	0.587	0.522	0.466	0.418	0.376	0.340
<b>XB250.075</b>	14.09	1.96	1.67	1.43	1.24	1.08	0.941	0.828	0.733	0.654	0.582	0.522	0.469	0.424
<b>XB250.100</b>	15.05	2.34	1.99	1.70	1.47	1.28	1.12	0.985	0.872	0.775	0.692	0.620	0.558	0.504
<b>XB250.125</b>	16.01	2.69	2.29	1.96	1.70	1.48	1.29	1.14	1.01	0.894	0.798	0.716	0.644	0.582
<b>XB250.150</b>	16.97	3.03	2.58	2.21	1.91	1.66	1.45	1.28	1.13	1.01	0.899	0.806	0.726	0.655
<b>XB400.000</b>	15.28	2.42	2.06	1.77	1.53	1.33	1.16	1.02	0.904	0.804	0.718	0.644	0.579	0.523
<b>XB400.025</b>	16.24	3.55	3.02	2.59	2.23	1.94	1.70	1.50	1.32	1.18	1.05	0.942	0.848	0.766
<b>XB400.050</b>	17.20	4.64	3.94	3.38	2.92	2.54	2.22	1.96	1.73	1.54	1.37	1.23	1.11	1.00
<b>XB400.075</b>	18.16	5.69	4.84	4.15	3.58	3.12	2.73	2.40	2.12	1.89	1.69	1.51	1.36	1.23
<b>XB400.100</b>	19.12	6.71	5.70	4.89	4.22	3.67	3.21	2.83	2.50	2.23	1.99	1.78	1.60	1.45
<b>XB400.125</b>	20.08	7.73	6.57	5.63	4.87	4.23	3.70	3.26	2.88	2.56	2.29	2.05	1.85	1.67
<b>XB400.150</b>	21.04	8.71	7.40	6.35	5.48	4.77	4.17	3.67	3.25	2.89	2.58	2.31	2.08	1.88
<b>XB550.000</b>	19.35	5.55	4.72	4.04	3.49	3.04	2.66	2.34	2.07	1.84	1.64	1.47	1.33	1.20
<b>XB550.025</b>	20.31	7.69	6.54	5.61	4.84	4.21	3.69	3.24	2.87	2.55	2.28	2.04	1.84	1.66
<b>XB550.050</b>	21.27	9.80	8.33	7.14	6.17	5.37	4.70	4.13	3.66	3.25	2.90	2.60	2.34	2.12
<b>XB550.075</b>	22.23	11.8	10.1	8.63	7.45	6.48	5.67	4.99	4.42	3.93	3.51	3.14	2.83	2.56
<b>XB550.100</b>	23.19	13.9	11.8	10.1	8.74	7.60	6.65	5.85	5.18	4.60	4.11	3.69	3.32	3.00
<b>XB550.125</b>	24.15	15.8	13.5	11.5	9.97	8.67	7.59	6.68	5.91	5.26	4.69	4.21	3.79	3.42
<b>XB550.150</b>	25.11	17.8	15.1	13.0	11.2	9.75	8.53	7.51	6.65	5.91	5.28	4.73	4.26	3.85

\*Values under bold line do not reach deflection limit prior to shear/bending failure.



## DESIGN MOMENT CAPACITY (KN/M) WITHOUT LATERAL RESTRAINT.

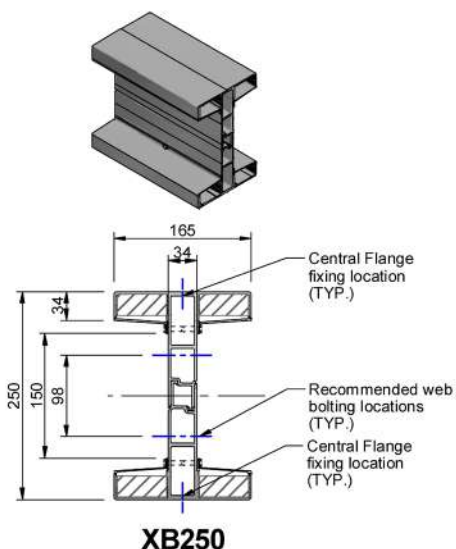
0.5 - 4.0m spans

Member	kg/m	φM	Effective unbraced length in metres (m)							
			0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
XB250.000	11.21	49.69	46.31	42.92	39.53	36.13	32.74	29.35	21.48	16.45
XB250.025	12.17	75.98	71.19	66.42	61.65	56.88	52.12	47.35	38.83	29.73
XB250.050	13.13	100.20	94.16	88.21	82.27	76.32	70.37	64.43	57.16	43.76
XB250.075	14.09	122.58	115.40	108.43	101.46	94.49	87.52	80.55	73.58	58.16
XB250.100	15.05	143.23	135.00	127.13	119.26	111.39	103.52	95.65	87.78	72.60
XB250.125	16.01	162.24	153.06	144.39	135.73	127.06	118.40	109.74	101.07	86.89
XB250.150	16.97	179.69	169.62	160.26	150.90	141.54	132.18	122.81	113.45	100.89
XB400.000	15.28	96.53	88.92	81.52	74.12	66.71	59.31	44.71	32.85	25.15
XB400.025	16.24	137.84	127.84	118.21	108.59	98.96	89.34	76.87	56.48	43.24
XB400.050	17.20	176.62	164.50	152.98	141.46	129.94	118.42	106.90	82.77	63.37
XB400.075	18.16	213.10	199.06	185.87	172.68	159.50	146.31	133.12	110.75	84.79
XB400.100	19.12	247.44	231.61	216.94	202.27	187.60	172.93	158.25	139.79	107.03
XB400.125	20.08	279.75	262.24	246.24	230.24	214.23	198.23	182.23	166.23	129.73
XB400.150	21.04	310.09	291.02	273.82	256.62	239.42	222.22	205.03	187.83	152.65
XB550.000	19.35	160.16	146.29	132.97	119.64	106.32	90.46	62.82	46.15	35.34
XB550.025	20.31	215.99	198.82	182.53	166.24	149.96	133.67	102.87	75.58	57.86
XB550.050	21.27	268.87	248.75	229.91	211.07	192.22	173.38	147.94	108.69	83.21
XB550.075	22.23	319.05	296.24	275.13	254.02	232.91	211.80	190.69	144.46	110.60
XB550.100	23.19	366.70	341.36	318.22	295.08	271.94	248.80	225.66	182.16	139.47
XB550.125	24.15	411.92	384.22	359.24	334.27	309.29	284.32	259.34	221.24	169.39
XB550.150	25.11	454.82	424.88	398.24	371.60	344.96	318.32	291.69	261.28	200.04

4.5 - 7.5m spans

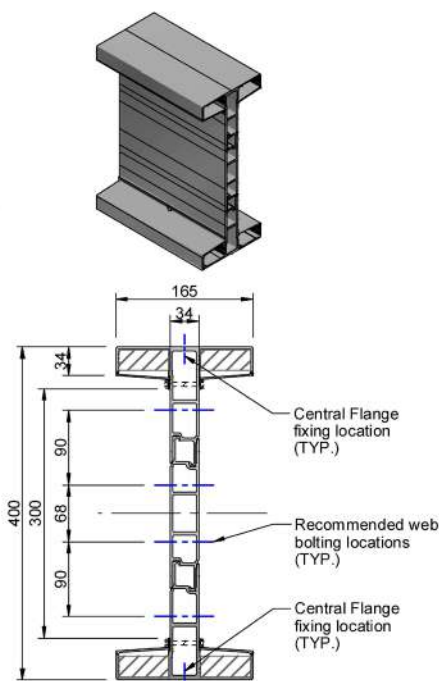
Member	kg/m	φM	Effective unbraced length in metres (m)							
			4.5	5.0	5.5	6.0	6.5	7.0	7.5	-
XB250.000	11.21	49.69	13.00	10.53	8.70	7.31	6.23	5.37	4.68	
XB250.025	12.17	75.98	23.49	19.03	15.73	13.21	11.26	9.71	8.46	
XB250.050	13.13	100.20	34.58	28.01	23.15	19.45	16.57	14.29	12.45	
XB250.075	14.09	122.58	45.95	37.22	30.76	25.85	22.03	18.99	16.54	
XB250.100	15.05	143.23	57.37	46.47	38.40	32.27	27.50	23.71	20.65	
XB250.125	16.01	162.24	68.66	55.61	45.96	38.62	32.91	28.37	24.72	
XB250.150	16.97	179.69	79.72	64.57	53.36	44.84	38.21	32.94	28.70	
XB400.000	15.28	96.53	19.87	16.09	13.30	11.18	9.52	8.21	7.15	
XB400.025	16.24	137.84	34.17	27.67	22.87	19.22	16.38	14.12	12.30	
XB400.050	17.20	176.62	50.07	40.56	33.52	28.16	24.00	20.69	18.02	
XB400.075	18.16	213.10	67.00	54.27	44.85	37.69	32.11	27.69	24.12	
XB400.100	19.12	247.44	84.57	68.50	56.61	47.57	40.53	34.95	30.44	
XB400.125	20.08	279.75	102.50	83.03	68.62	57.66	49.13	42.36	36.90	
XB400.150	21.04	310.09	120.62	97.70	80.74	67.85	57.81	49.85	43.42	
XB550.000	19.35	160.16	27.92	22.62	18.69	15.71	13.38	11.54	10.05	
XB550.025	20.31	215.99	45.72	37.03	30.61	25.72	21.91	18.89	16.46	
XB550.050	21.27	268.87	65.75	53.26	44.01	36.98	31.51	27.17	23.67	
XB550.075	22.23	319.05	87.39	70.79	58.50	49.16	41.89	36.12	31.46	
XB550.100	23.19	366.70	110.20	89.26	73.77	61.99	52.82	45.54	39.67	
XB550.125	24.15	411.92	133.84	108.41	89.59	75.28	64.15	55.31	48.18	
XB550.150	25.11	454.82	158.06	128.03	105.81	88.91	75.76	65.32	56.90	





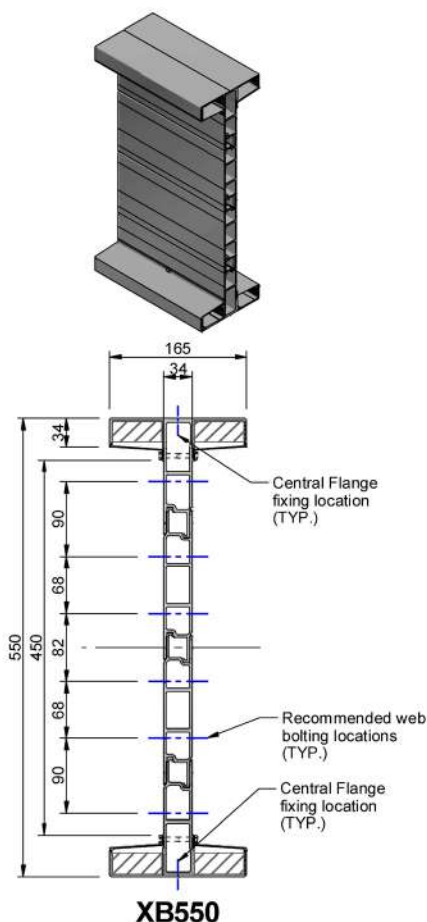
**XB250**

CODE	EI Vert. (Mpa.mm <sup>4</sup> )	Vertical NA Shift (mm) **	Vert. BM (kNm)	Vert. Shear (kN)	EI Horiz. (Mpa.mm <sup>4</sup> )	Horizontal NA	Horiz. BM (kNm)	Horiz. Shear (kN)	Mass (kg/m)	Zx *** (mm <sup>3</sup> )	Zy *** (mm <sup>3</sup> )
XB250.250	1.21E+13	4.81	251.1	70	2.60E+12	2.17	99.9	84.3	20.81	1.33E+06	4.38E+05
XB250.225	1.13E+13	4.74	238.8	70	2.38E+12	2.12	91.2	83.8	19.85	1.24E+06	4.00E+05
XB250.200	1.04E+13	4.65	225.1	70	2.15E+12	2.05	82.5	83.2	18.89	1.15E+06	3.62E+05
XB250.175	9.56E+12	4.52	209.8	70	1.92E+12	1.97	73.76	82.0	17.93	1.05E+06	3.25E+05
XB250.150	8.64E+12	4.35	193.0	70	1.70E+12	1.88	65.1	80.6	16.97	9.54E+05	2.87E+05
XB250.125	7.67E+12	4.12	174.5	70	1.47E+12	1.76	56.3	75.2	16.01	8.48E+05	2.48E+05
XB250.100	6.65E+12	3.8	154.2	70	1.24E+12	1.61	47.6	69.7	15.05	7.38E+05	2.10E+05
XB250.075	5.59E+12	3.36	132.2	70	1.01E+12	1.40	38.9	64.6	14.09	6.22E+05	1.72E+05
XB250.050	4.48E+12	2.71	108.2	70	7.86E+11	1.12	30.2	59.3	13.13	5.01E+05	1.34E+05
XB250.025	3.32E+12	1.71	82.1	70	5.59E+11	0.7	21.5	56.5	12.17	3.75E+05	9.60E+04
XB250.000	2.12E+12	0.00	53.7	70	3.32E+11	0.00	12.8	53.6	11.21	2.42E+05	5.75E+04



**XB400**

CODE	EI Vert. (Mpa.mm <sup>4</sup> )	Vertical NA Shift (mm) **	Vert. BM (kNm)	Vert. Shear (kN)	EI Horiz. (Mpa.mm <sup>4</sup> )	Horizontal NA	Horiz. BM (kNm)	Horiz. Shear (kN)	Mass (kg/m)	Zx *** (mm <sup>3</sup> )	Zy *** (mm <sup>3</sup> )
XB400.250	3.52E+13	7.40	371.6	130	2.62E+12	1.98	100.6	85.5	24.88	2.42E+06	4.43E+05
XB400.225	3.27E+13	7.21	352.1	130	2.39E+12	1.91	91.9	84.9	23.92	2.25E+06	4.05E+05
XB400.200	3.01E+13	6.97	330.8	130	2.16E+12	1.84	83.2	84.2	22.96	2.08E+06	3.67E+05
XB400.175	2.75E+13	6.69	307.8	130	1.94E+12	1.75	74.5	82.5	22.00	1.90E+06	3.29E+05
XB400.150	2.48E+13	6.33	283.1	130	1.71E+12	1.65	65.8	80.7	21.04	1.72E+06	2.90E+05
XB400.125	2.20E+13	5.88	256.4	130	1.48E+12	1.52	57.1	75.5	20.08	1.53E+06	2.52E+05
XB400.100	1.91E+13	5.30	227.8	130	1.26E+12	1.36	48.4	70.2	19.12	1.33E+06	2.14E+05
XB400.075	1.62E+13	4.55	197.1	130	1.03E+12	1.16	39.6	65.2	18.16	1.13E+06	1.76E+05
XB400.050	1.32E+13	3.53	164.3	130	8.04E+11	0.90	30.9	60.1	17.20	9.25E+05	1.38E+05
XB400.025	1.01E+13	2.11	129.1	130	5.78E+11	0.53	22.2	58.4	16.24	7.12E+05	9.94E+04
XB400.000	6.90E+12	0.00	91.1	130	3.50E+11	0.00	13.5	56.6	15.28	4.93E+05	6.07E+04



**XB550**


CODE	EI Vert. (Mpa.mm <sup>4</sup> )	Vertical NA Shift (mm) **	Vert. BM (kNm)	Vert. Shear (kN)	EI Horiz. (Mpa.mm <sup>4</sup> )	Horizontal NA	Horiz. BM (kNm)	Horiz. Shear (kN)	Mass (kg/m)	Zx *** (mm <sup>3</sup> )	Zy *** (mm <sup>3</sup> )
XB550.250	7.18E+13	9.57	472.1	180	2.64E+12	1.82	101.5	86.7	28.95	3.60E+06	4.47E+05
XB550.225	6.66E+13	9.25	447.0	180	2.41E+12	1.75	92.8	86.0	27.99	3.35E+06	4.09E+05
XB550.200	6.14E+13	8.87	420.0	180	2.19E+12	1.67	84.1	85.2	27.03	3.09E+06	3.71E+05
XB550.175	5.61E+13	8.41	391.2	180	1.96E+12	1.58	75.4	83.0	26.07	2.83E+06	3.33E+05
XB550.150	5.07E+13	7.87	360.3	180	1.73E+12	1.47	66.6	80.8	25.11	2.56E+06	2.95E+05
XB550.125	4.51E+13	7.21	327.4	180	1.51E+12	1.34	57.9	75.8	24.15	2.29E+06	2.57E+05
XB550.100	3.95E+13	6.40	292.4	180	1.28E+12	1.18	49.2	70.7	23.19	2.01E+06	2.19E+05
XB550.075	3.37E+13	5.38	255.1	180	1.05E+12	0.99	40.5	65.8	22.23	1.72E+06	1.80E+05
XB550.050	2.79E+13	4.08	215.5	180	8.27E+11	0.75	31.8	60.9	21.27	1.43E+06	1.42E+05
XB550.025	2.19E+13	2.36	173.4	180	6.00E+11	0.43	23.1	60.3	20.31	1.13E+06	1.03E+05
XB550.000	1.58E+13	0.00	128.5	180	3.73E+11	0.00	14.3	59.6	19.35	8.21E+05	6.46E+04

**NOTES:**

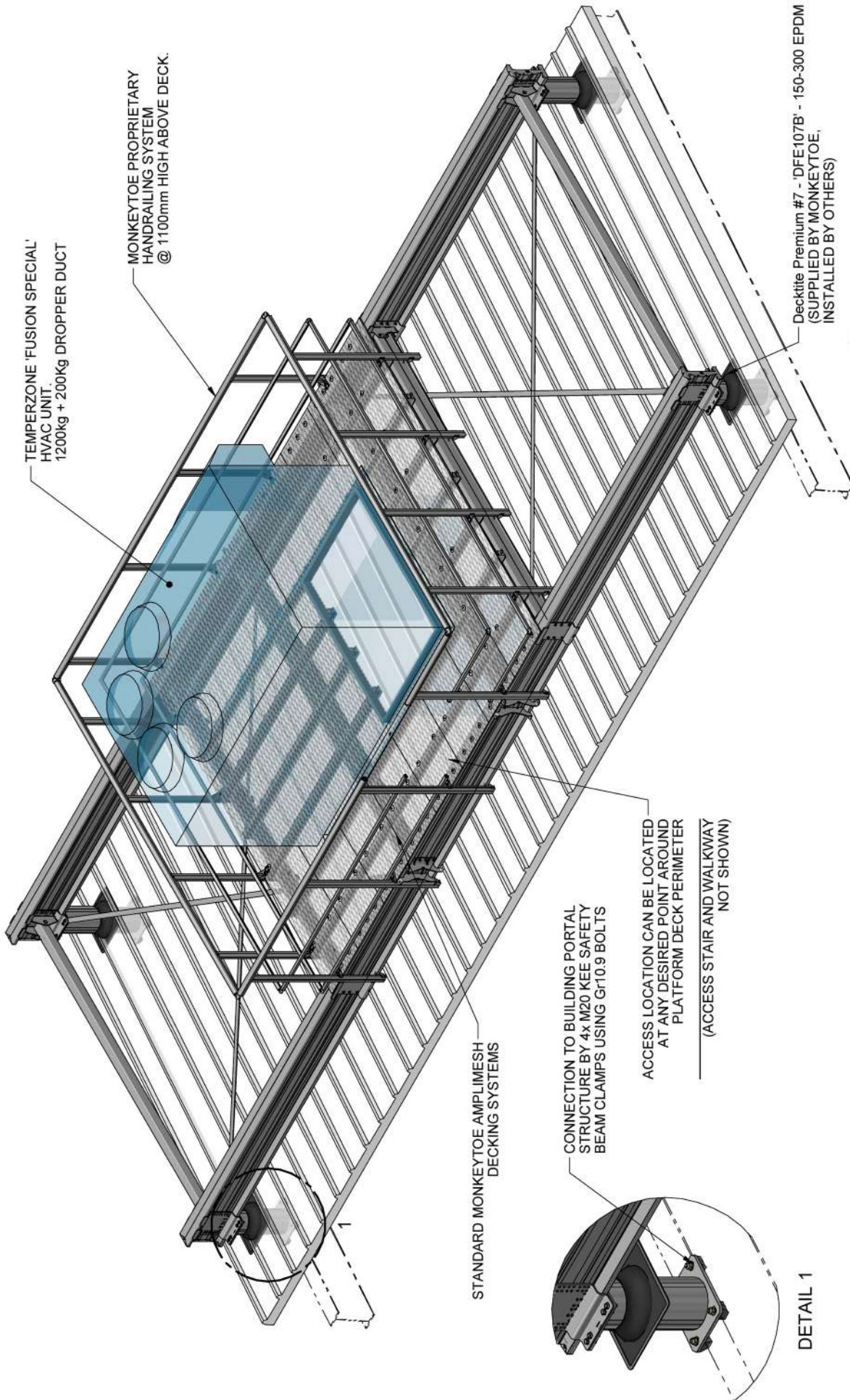
1. EI = Material modulus x Section Moment of Inertia (Given in this format due to the use of multiple materials). For transformed Aluminium equivalent, divide by 70000.
2. \*\* Neutral Axis Shift; Due to the differing compressive and tensile moduli of Carbon Fiber, as the proportion used increases the beam neutral axis will shift further towards the tensile side. The shift measurement shown is from the centre line of the beam.
3. \*\*\* Zx & Zy Elastic section modulus based on Aluminium transformed properties where E= 70GPa.
4. Beams can be tailored along their length using a combination of the above sections as required. (Typically stepped in 200mm Increments)

Aluminium Grade: **6005-T5**  
 Ft<sub>u</sub>: **262 MPa** Ft<sub>y</sub>: **241 MPa**  
 F<sub>cy</sub>: **241 MPa**  
 F<sub>su</sub>: **165 MPa** F<sub>sy</sub>: **138 MPa**  
 F<sub>bu</sub>: **552 MPa** F<sub>by</sub>: **386 MPa**  
 E: **70000 MPa**

**Monkeytoe**

SECTIONAL PROPERTIES & LIMITS		
MONKEYTOE - XBEAM V1		
DWG No: XBEAM-SPL-01	26/05/2021	
	SHEET 1 OF 1	A3
	SCALE: 1:2	REV:04
DO NOT SCALE	DIMENSIONS IN MILLIMETERS	





Monkeytoe

Single Unit Midspan Platform With Handrails		
Example Case		
DWG No: 23585-GA-01	23585	
	SHEET 1 OF 3	A3
	SCALE: 1:35	REV:03
DO NOT SCALE	DIMENSIONS IN MILLIMETERS	



