STEADMANS
ROOFING & CLADDING

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PURLINS, RAILS & EAVES BEAMS

> LOAD TABLES

ZED PURLIN SYSTEMS · EAVES BEAMS · ZED & CEE SHEETING RAILS · FLOOR CEES

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PURLINS, RAILS & EAVES BEAMS

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ABOUT STEADMANS

A Steadman & Son Limited (usually known as Steadmans) are one of the UK's leading manufacturers of roofing and cladding, supplying high quality cladding materials from our sites in England, Scotland and Northern Ireland. We offer total roofing and cladding solutions which we deliver with our dedicated haulage fleet.

Our continuous investment programme and on-going product development ensures we can provide high quality products promptly and at competitive prices.

INTRODUCTION

This brochure presents load tables for a number of practical design situations. Tables should be read in conjunction with the systems information which is contained in a separate brochure - 'Purlins, Rails & Eaves Beams: Design'.

Steadmans have used a flexible approach to the number of rows of sag members, to allow maximum freedom of choice for the designer and Architect. Information on this topic should be obtained from the relevant section of the manual prior to selection of purlins and rails.

Note that if zero rows of sag bars are used then temporary bracing may be required during erection to avoid distortion of purlins and rails.

Load tables are based on calculations to BS EN 1993-1-3:2006 using a combination of rational analysis and component testing.

The tables are based on the use of restraining metal cladding. For non restraining and hook bolt fixed cladding the design disc should be used in conjunction with the sag bar arrangements shown in the Purlin Manual.

Steadmans realise that our standard range will not meet all requirements and therefore customer designed Zed, Cee and Eaves Beam sections can be manufactured along with individual designs for special applications.

Our extensive stock of full width coils in various gauges and our capability to cut, fold and punch these materials allow us to offer solutions to almost all situations.

Please consult Steadmans Sales Department for further details.

INTRODUCTION

Purlin Load Tables

Load tables provide unfactored gravity load capacities which are based on the lesser of the purlin working load capacity or as controlled by a deflection limit of Span/180. The tables also provide ultimate load capacities for gravity load, wind uplift and for deflection limits of Span/180 and Span/150.

Wind uplift capacity values are given for three conditions, i.e. 0 rows, 1 row and 2 rows of purlin braces, within the limits of the information provided.

When evaluating factored and unfactored loadings the self weight of the purlin section need not be considered as this effect is included in the load tables, with the exception that the deflection-controlled values are based on deflections only, excluding self weight effects, so that other limits may be adopted by pro-rata.

Purlins are frequently selected on the basis of a gravity load deflection limit of Span/180 but there may be a number of cases, including agricultural buildings, where other limits may apply. In the case of agricultural buildings the designer may choose to select purlins on the basis of the load given for the Span/150 limit, for unfactored loads, and on the basis of the ultimate capacity for factored loadings. Some claddings may require more stringent deflection limits and these may be determined by pro-rata. It is not usual to limit deflections for wind uplift cases but if required the designer can evaluate the unfactored net wind uplift and limit to the deflection-limit capacity given in the tables. Note that purlin design may be more readily carried out using the Steadmans design software.

Wind loadings should be evaluated to the relevant code of practice and should be increased by a suitable load factor (usually 1.4), with the cladding dead load deducted to give the factored net loading.

The load tables apply to roof slopes up to 25˚, for steeper slopes the design software should be used or consult Steadmans direct.

Sheeting Rail Load Tables

Sheeting rail tables are based on the usual assumption that cladding dead weight does not cause significant bending in the vertical plane. This condition is satisfied in practice if the cladding weight is supported by the eaves beam or at the base of the panel or if the cladding is fixed in such a manner as to form an effective diaphragm. (Refer to BS EN 1993-1-3:2006.)

Eaves Beam Load Tables

Tables are provided for eaves beams for single and double span cases within the limits of the product. The tables are based on the assumption of restraining type roof cladding. It is assumed that horizontal wind forces are carried by the eaves beam and braces and hence into the roof diaphragm. The designer should be satisfied that suitable load paths exist for these forces. For cases where the wall cladding is fixed near the top flange of the eaves beam then the designer may wish to consider that the horizontal wind is carried by the fixings directly into the roof diaphragm, provided restraining type roof cladding is used.

Non Uniform Spans

The most economical design of frames and cold-rolled sections occurs when all spans are of equal length. However there are circumstances where it is not possible to achieve this due to practical constraints - see page 68 for more details.

PURLINS, RAILS & EAVES BEAMS
ZED PURLIN LOAD TABLES

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	12.36	4.12	3.43	2.75	2.29	2.06	1.72	20.79	19.77	19.77	19.77	19.77
140 Z 15	3.26	14.40	4.80	4.00	3.20	2.67	2.40	2.00	22.20	23.04	23.04	23.04	23.04
140 Z 16	3.48	16.44	5.48	4.57	3.65	3.04	2.74	2.28	23.61	26.31	26.31	26.31	26.31
140 Z 18	3.90	20.46	6.82	5.68	4.55	3.79	3.41	2.84	26.41	32.74	32.74	32.74	32.74
140 Z 20	4.32	24.44	8.15	6.79	5.43	4.53	4.07	3.39	29.19	39.10	39.10	39.10	39.10
Span = 3.5m													
140 Z 14	3.06	10.59	3.03	2.52	2.02	1.68	1.51	1.26	15.28	16.95	16.95	16.95	16.95
140 Z 15	3.26	12.34	3.53	2.94	2.35	1.96	1.76	1.47	16.31	19.75	19.75	19.75	19.75
140 Z 16	3.48	14.09	4.03	3.36	2.68	2.24	2.01	1.68	17.35	22.55	22.55	22.55	22.55
140 Z 18	3.90	17.54	5.01	4.18	3.34	2.78	2.51	2.09	19.40	28.06	28.06	28.06	28.06
140 Z 20	4.32	20.95	5.99	4.99	3.99	3.33	2.99	2.49	21.45	33.52	33.52	33.52	33.52
Span = 4.0m													
140 Z 14	3.06	9.27	2.32	1.93	1.54	1.29	1.16	0.97	11.70	14.83	14.55	14.83	14.83
140 Z 15	3.26	10.80	2.70	2.25	1.80	1.50	1.35	1.13	12.49	17.28	17.28	17.28	17.28
140 Z 16	3.48	12.33	3.08	2.57	2.06	1.71	1.54	1.28	13.28	19.73	19.73	19.73	19.73
140 Z 18	3.90	14.86	3.71	3.09	2.48	2.06	1.86	1.55	14.86	24.56	24.56	24.56	24.56
140 Z 20	4.32	16.42	4.11	3.42	2.74	2.28	2.05	1.71	16.42	29.33	29.33	29.33	29.33
170 Z 14	3.38	12.04	3.01	2.51	2.01	1.67	1.50	1.25	18.42	19.26	17.04	19.26	19.26
170 Z 15	3.62	14.04	3.51	2.93	2.34	1.95	1.76	1.46	19.68	22.46	20.37	22.46	22.46
170 Z 16	3.86	16.04	4.01	3.34	2.67	2.23	2.00	1.67	20.94	25.66	23.70	25.66	25.66
170 Z 18	4.33	19.98	4.99	4.16	3.33	2.77	2.50	2.08	23.44	31.96	30.28	31.96	31.96
170 Z 20	4.79	23.88	5.97	4.97	3.98	3.32	2.98	2.49	25.93	38.20	36.82	38.20	38.20
170 Z 25	5.94	31.92	7.98	6.65	5.32	4.43	3.99	3.32	31.92	53.27	52.72	50.27	53.27
200 Z 14	3.92	12.82	3.20	2.67	2.14	1.78	1.60	1.34	29.72	20.51	18.81	20.51	20.51
200 Z 15	4.20	15.61	3.90	3.25	2.60	2.17	1.95	1.63	31.76	24.98	24.04	24.98	24.98
Span = 4.5m													
140 Z 14	3.06	8.24	1.83	1.53	1.22	1.02	0.92	0.76	9.24	13.18	11.76	13.18	13.18
140 Z 15	3.26	9.60	2.13	1.78	1.42	1.19	1.07	0.89	9.87	15.36	14.06	15.36	15.36
140 Z 16	3.48	10.50	2.33	1.94	1.55	1.30	1.17	0.97	10.50	17.54	16.37	17.54	17.54
140 Z 18	3.90	11.74	2.61	2.17	1.74	1.45	1.30	1.09	11.74	21.83	20.94	21.83	21.83
140 Z 20	4.32	12.97	2.88	2.40	1.92	1.60	1.44	1.20	12.97	26.07	25.49	26.07	26.07
170 Z 14	3.38	10.70	2.38	1.98	1.59	1.32	1.19	0.99	14.56	17.12	13.72	17.12	17.12
170 Z 15	3.62	12.48	2.77	2.31	1.85	1.54	1.39	1.16	15.55	19.97	16.40	19.97	19.97
170 Z 16	3.86	14.25	3.17	2.64	2.11	1.76	1.58	1.32	16.55	22.81	19.09	22.81	22.81
170 Z 18	4.33	17.76	3.95	3.29	2.63	2.19	1.97	1.64	18.52	28.41	24.41	28.41	28.41
170 Z 20	4.79	20.49	4.55	3.79	3.04	2.53	2.28	1.90	20.49	33.96	29.70	33.96	33.96
170 Z 25	5.94	25.22	5.60	4.67	3.74	3.11	2.80	2.33	25.22	47.35	42.62	47.35	47.35
200 Z 14	3.92	11.39	2.53	2.11	1.69	1.41	1.27	1.05	23.48	18.23	14.94	18.23	18.23
200 Z 15	4.20	13.88	3.08	2.57	2.06	1.71	1.54	1.28	25.10	22.20	19.10	22.20	22.20
200 Z 16	4.48	16.34	3.63	3.03	2.42	2.02	1.82	1.51	26.73	26.15	23.25	26.15	26.15

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 Z 14	3.06	7.41	1.48	1.24	0.99	0.82	0.74		7.49	11.86	9.82	11.86	11.86
140 Z 15	3.26	7.99	1.60	1.33	1.07	0.89	0.80		7.99	13.83	11.74	13.83	13.83
140 Z 16	3.48	8.50	1.70	1.42	1.13	0.94	0.85	0.71	8.50	15.78	13.67	15.78	15.78
140 Z 18	3.90	9.51	1.90	1.58	1.27	1.06	0.95	0.79	9.51	19.64	17.50	19.64	19.64
140 Z 20	4.32	10.51	2.10	1.75	1.40	1.17	1.05	0.88	10.51	23.46	21.32	23.46	23.46
170 Z 14	3.38	9.63	1.93	1.61	1.28	1.07	0.96	0.80	11.79	15.41	11.41	15.22	15.41
170 Z 15	3.62	11.23	2.25	1.87	1.50	1.25	1.12	0.94	12.59	17.97	13.65	17.97	17.97
170 Z 16	3.86	12.83	2.57	2.14	1.71	1.43	1.28	1.07	13.40	20.53	15.89	20.53	20.53
170 Z 18	4.33	15.00	3.00	2.50	2.00	1.67	1.50	1.25	15.00	25.57	20.33	25.57	25.57
170 Z 20	4.79	16.60	3.32	2.77	2.21	1.84	1.66	1.38	16.60	30.56	24.75	30.56	30.56
170 Z 25	5.94	20.43	4.09	3.40	2.72	2.27	2.04	1.70	20.43	42.61	35.57	42.61	42.61
200 Z 14	3.92	10.25	2.05	1.71	1.37	1.14	1.03	0.85	19.02	16.41	12.28	16.41	16.41
200 Z 15	4.20	12.49	2.50	2.08	1.67	1.39	1.25	1.04	20.33	19.98	15.70	19.98	19.98
200 Z 16	4.48	14.71	2.94	2.45	1.96	1.63	1.47	1.23	21.65	23.54	19.11	23.54	23.54
200 Z 18	5.03	19.10	3.82	3.18	2.55	2.12	1.91	1.59	24.26	30.55	25.87	30.55	30.55
200 Z 20	5.58	23.44	4.69	3.91	3.13	2.60	2.34	1.95	26.86	37.50	32.58	37.50	37.50
200 Z 25	6.92	33.15	6.63	5.52	4.42	3.68	3.31	2.76	33.15	54.36	48.97	54.36	54.36
240 Z 15	4.81	14.70	2.94	2.45	1.96	1.63	1.47	1.22	32.70	23.52	16.88	23.52	23.52
240 Z 16	5.13	17.69	3.54	2.95	2.36	1.97	1.77	1.47	34.84	28.30	21.26	28.30	28.30
240 Z 18	5.77	23.59	4.72	3.93	3.15	2.62	2.36	1.97	39.08	37.75	29.92	37.75	37.75
Span = 5.5m													
140 Z 14	3.06	6.19	1.12	0.94	0.75				6.19	10.78	8.40	10.00	10.78
140 Z 15	3.26	6.60	1.20	1.00	0.80				6.60	12.57	10.05	11.95	12.57
140 Z 16	3.48	7.03	1.28	1.06	0.85	0.71			7.03	14.35	11.71	13.90	14.35
140 Z 18	3.90	7.86	1.43	1.19	0.95	0.79	0.71		7.86	17.86	14.99	17.76	17.86
140 Z 20	4.32	8.69	1.58	1.32	1.05	0.88	0.79		8.69	21.33	18.28	21.33	21.33
170 Z 14	3.38	8.76	1.59	1.33	1.06	0.88	0.80		9.74	14.01	9.73	12.51	14.01
170 Z 15	3.62	10.21	1.86	1.55	1.24	1.03	0.93	0.77	10.41	16.34	11.65	14.95	16.34
170 Z 16	3.86	11.08	2.01	1.68	1.34	1.12	1.01	0.84	11.08	18.66	13.56	17.38	18.66
170 Z 18	4.33	12.40	2.25	1.88	1.50	1.25	1.13	0.94	12.40	23.24	17.36	22.20	23.24
170 Z 20	4.79	13.72	2.49	2.08	1.66	1.39	1.25	1.04	13.72	27.78	21.15	26.97	27.78
170 Z 25	5.94	16.88	3.07	2.56	2.05	1.71	1.53	1.28	16.88	38.74	30.44	38.57	38.74
200 Z 14	3.92	9.32	1.69	1.41	1.13	0.94	0.85	0.71	15.72	14.92	10.36	14.05	14.92
200 Z 15	4.20	11.35	2.06	1.72	1.38	1.15	1.03	0.86	16.80	18.17	13.25	17.95	18.17
200 Z 16	4.48	13.37	2.43	2.03	1.62	1.35	1.22	1.01	17.89	21.40	16.14	21.40	21.40
200 Z 18	5.03	17.36	3.16	2.63	2.10	1.75	1.58	1.32	20.05	27.78	21.85	27.78	27.78
200 Z 20	5.58	21.31	3.87	3.23	2.58	2.15	1.94	1.61	22.20	34.09	27.53	34.09	34.09
200 Z 25	6.92	27.40	4.98	4.15	3.32	2.77	2.49	2.08	27.40	49.41	41.44	49.41	49.41
240 Z 15	4.81	13.36	2.43	2.02	1.62	1.35	1.21	1.01	27.03	21.38	14.10	19.91	21.38
240 Z 16	5.13	16.08	2.92	2.44	1.95	1.62	1.46	1.22	28.80	25.73	17.75	25.06	25.73
240 Z 18	5.77	21.45	3.90	3.25	2.60	2.17	1.95	1.62	32.30	34.32	25.00	34.32	34.32

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Purlin Centres in millimetres						Deflection Span/180	Ultimate U.D.L. in kN / span: Gravity Load	Uplift - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
140 Z 14	3.06	5.20	0.87	0.72					5.20	9.89	7.33	8.39	9.89
140 Z 15	3.26	5.55	0.92	0.77					5.55	11.52	8.78	10.03	11.52
140 Z 16	3.48	5.90	0.98	0.82					5.90	13.15	10.23	11.67	13.15
140 Z 18	3.90	6.60	1.10	0.92	0.73				6.60	16.37	13.10	14.92	16.37
140 Z 20	4.32	7.30	1.22	1.01	0.81	0.68			7.30	19.55	15.97	18.15	19.55
170 Z 14	3.38	8.03	1.34	1.11	0.89	0.74			8.19	12.84	8.47	10.51	12.84
170 Z 15	3.62	8.75	1.46	1.21	0.97	0.81	0.73		8.75	14.98	10.14	12.57	14.98
170 Z 16	3.86	9.31	1.55	1.29	1.03	0.86	0.78		9.31	17.11	11.81	14.62	17.11
170 Z 18	4.33	10.42	1.74	1.45	1.16	0.96	0.87	0.72	10.42	21.31	15.13	18.68	21.31
170 Z 20	4.79	11.53	1.92	1.60	1.28	1.07	0.96	0.80	11.53	25.47	18.44	22.71	25.47
170 Z 25	5.94	14.18	2.36	1.97	1.58	1.31	1.18	0.99	14.18	35.51	26.57	32.53	35.51
200 Z 14	3.92	8.55	1.42	1.19	0.95	0.79	0.71		13.21	13.67	8.93	11.71	13.67
200 Z 15	4.20	10.41	1.73	1.45	1.16	0.96	0.87	0.72	14.12	16.65	11.43	14.97	16.65
200 Z 16	4.48	12.26	2.04	1.70	1.36	1.14	1.02	0.85	15.03	19.61	13.92	18.21	19.61
200 Z 18	5.03	15.91	2.65	2.21	1.77	1.47	1.33	1.11	16.85	25.46	18.86	24.61	25.46
200 Z 20	5.58	18.65	3.11	2.59	2.07	1.73	1.55	1.30	18.65	31.25	23.77	30.96	31.25
200 Z 25	6.92	23.02	3.84	3.20	2.56	2.13	1.92	1.60	23.02	45.30	35.81	45.30	45.30
240 Z 15	4.81	12.25	2.04	1.70	1.36	1.13	1.02	0.85	22.71	19.60	12.04	16.47	19.60
240 Z 16	5.13	14.74	2.46	2.05	1.64	1.36	1.23	1.02	24.20	23.59	15.16	20.72	23.59
240 Z 18	5.77	19.66	3.28	2.73	2.18	1.82	1.64	1.37	27.14	31.46	21.36	29.13	31.46
240 Z 20	6.39	24.53	4.09	3.41	2.73	2.27	2.04	1.70	30.07	39.25	27.52	37.45	39.25
Span = 6.5m													
170 Z 14	3.38	6.98	1.07	0.89	0.72				6.98	11.85	7.50	9.01	11.85
170 Z 15	3.62	7.45	1.15	0.96	0.76				7.45	13.82	8.98	10.77	13.82
170 Z 16	3.86	7.93	1.22	1.02	0.81	0.68			7.93	15.79	10.46	12.53	15.79
170 Z 18	4.33	8.88	1.37	1.14	0.91	0.76	0.68		8.88	19.67	13.40	16.02	19.67
170 Z 20	4.79	9.82	1.51	1.26	1.01	0.84	0.76		9.82	23.51	16.33	19.49	23.51
170 Z 25	5.94	12.09	1.86	1.55	1.24	1.03	0.93	0.77	12.09	32.78	23.56	27.96	32.78
200 Z 14	3.92	7.89	1.21	1.01	0.81	0.67			11.25	12.62	7.84	9.95	12.62
200 Z 15	4.20	9.61	1.48	1.23	0.99	0.82	0.74		12.03	15.37	10.03	12.72	15.37
200 Z 16	4.48	11.32	1.74	1.45	1.16	0.97	0.87	0.73	12.81	18.10	12.22	15.47	18.10
200 Z 18	5.03	14.36	2.21	1.84	1.47	1.23	1.10	0.92	14.36	23.50	16.55	20.93	23.50
200 Z 20	5.58	15.90	2.45	2.04	1.63	1.36	1.22	1.02	15.90	28.85	20.87	26.33	28.85
200 Z 25	6.92	19.61	3.02	2.51	2.01	1.68	1.51	1.26	19.61	41.81	31.48	39.50	41.81
240 Z 15	4.81	11.31	1.74	1.45	1.16	0.97	0.87	0.72	19.35	18.09	10.47	13.86	18.09
240 Z 16	5.13	13.61	2.09	1.74	1.40	1.16	1.05	0.87	20.62	21.77	13.19	17.45	21.77
240 Z 18	5.77	18.15	2.79	2.33	1.86	1.55	1.40	1.16	23.12	29.04	18.59	24.54	29.04
240 Z 20	6.39	22.65	3.48	2.90	2.32	1.94	1.74	1.45	25.62	36.23	23.96	31.57	36.23
240 Z 25	7.94	31.69	4.88	4.06	3.25	2.71	2.44	2.03	31.69	53.75	37.13	48.66	53.75
240 Z 30	9.47	37.56	5.78	4.82	3.85	3.21	2.89	2.41	37.56	70.71	50.06	65.23	70.71

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.0m													
170 Z 14	3.38	6.02	0.86	0.72					6.02	11.01	6.72	7.84	11.01
170 Z 15	3.62	6.43	0.92	0.76					6.43	12.84	8.05	9.38	12.84
170 Z 16	3.86	6.84	0.98	0.81					6.84	14.66	9.38	10.92	14.66
170 Z 18	4.33	7.66	1.09	0.91	0.73				7.66	18.26	12.02	13.97	18.26
170 Z 20	4.79	8.47	1.21	1.01	0.81	0.67			8.47	21.83	14.66	17.00	21.83
170 Z 25	5.94	10.42	1.49	1.24	0.99	0.83	0.74		10.42	30.44	21.16	24.42	30.44
200 Z 14	3.92	7.32	1.05	0.87	0.70				9.70	11.72	6.98	8.59	11.72
200 Z 15	4.20	8.92	1.27	1.06	0.85	0.71			10.37	14.27	8.93	10.98	14.27
200 Z 16	4.48	10.51	1.50	1.25	1.00	0.83	0.75		11.05	16.81	10.87	13.37	16.81
200 Z 18	5.03	12.38	1.77	1.47	1.18	0.98	0.88	0.74	12.38	21.82	14.74	18.08	21.82
200 Z 20	5.58	13.71	1.96	1.63	1.31	1.09	0.98	0.82	13.71	26.79	18.59	22.77	26.79
200 Z 25	6.92	16.91	2.42	2.01	1.61	1.34	1.21	1.01	16.91	38.83	28.07	34.19	38.83
240 Z 15	4.81	10.50	1.50	1.25	1.00	0.83	0.75		16.69	16.80	9.25	11.87	16.80
240 Z 16	5.13	12.63	1.80	1.50	1.20	1.00	0.90	0.75	17.78	20.22	11.65	14.94	20.22
240 Z 18	5.77	16.85	2.41	2.01	1.61	1.34	1.20	1.00	19.94	26.96	16.43	21.02	26.96
240 Z 20	6.39	21.03	3.00	2.50	2.00	1.67	1.50	1.25	22.09	33.64	21.17	27.04	33.64
240 Z 25	7.94	27.32	3.90	3.25	2.60	2.17	1.95	1.63	27.32	49.91	32.84	41.73	49.91
240 Z 30	9.47	32.39	4.63	3.86	3.08	2.57	2.31	1.93	32.39	65.66	44.32	56.00	65.66
Span = 7.5m													
200 Z 16	4.48	9.62	1.28	1.07	0.86	0.71			9.62	15.69	9.79	11.71	15.69
200 Z 18	5.03	10.78	1.44	1.20	0.96	0.80	0.72		10.78	20.37	13.28	15.85	20.37
200 Z 20	5.58	11.94	1.59	1.33	1.06	0.88	0.80		11.94	25.00	16.76	19.96	25.00
200 Z 25	6.92	14.73	1.96	1.64	1.31	1.09	0.98	0.82	14.73	36.24	25.31	30.01	36.24
240 Z 15	4.81	9.80	1.31	1.09	0.87	0.73			14.54	15.68	8.27	10.30	14.46
240 Z 16	5.13	11.79	1.57	1.31	1.05	0.87	0.79		15.49	18.87	10.42	12.97	18.19
240 Z 18	5.77	15.73	2.10	1.75	1.40	1.17	1.05	0.87	17.37	25.17	14.70	18.26	25.17
240 Z 20	6.39	19.25	2.57	2.14	1.71	1.43	1.28	1.07	19.25	31.40	18.95	23.50	31.40
240 Z 25	7.94	23.80	3.17	2.64	2.12	1.76	1.59	1.32	23.80	46.58	29.42	36.30	46.58
240 Z 30	9.47	28.22	3.76	3.14	2.51	2.09	1.88	1.57	28.22	61.28	39.73	48.77	61.28
Span = 8.0m													
200 Z 16	4.48	8.46	1.06	0.88	0.70				8.46	14.71	8.91	10.38	13.60
200 Z 18	5.03	9.48	1.18	0.99	0.79				9.48	19.10	12.08	14.06	18.37
200 Z 20	5.58	10.49	1.31	1.09	0.87	0.73			10.49	23.44	15.25	17.72	23.08
200 Z 25	6.92	12.95	1.62	1.35	1.08	0.90	0.81	0.67	12.95	33.97	23.04	26.66	33.97
240 Z 15	4.81	9.19	1.15	0.96	0.77				12.78	14.70	7.48	9.06	12.42
240 Z 16	5.13	11.06	1.38	1.15	0.92	0.77	0.69		13.61	17.69	9.42	11.41	15.63
240 Z 18	5.77	14.75	1.84	1.54	1.23	1.02	0.92	0.77	15.27	23.59	13.29	16.07	21.95
240 Z 20	6.39	16.91	2.11	1.76	1.41	1.17	1.06	0.88	16.91	29.44	17.14	20.68	28.20
240 Z 25	7.94	20.92	2.61	2.18	1.74	1.45	1.31	1.09	20.92	43.67	26.62	31.98	43.34
240 Z 30	9.47	24.80	3.10	2.58	2.07	1.72	1.55	1.29	24.80	57.45	35.98	43.01	57.45

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

PURLINS, RAILS & EAVES BEAMS
ZED PURLIN LOAD TABLES

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Purlin Centres in millimetres						Deflection Span/180	Ultimate U.D.L. in kN / span: Gravity Load	Uplift - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 8.5m													
240 Z 18	5.77	13.52	1.59	1.33	1.06	0.88	0.80		13.52	22.21	12.13	14.29	19.02
240 Z 20	6.39	14.98	1.76	1.47	1.18	0.98	0.88	0.73	14.98	27.71	15.64	18.40	24.43
240 Z 25	7.94	18.53	2.18	1.82	1.45	1.21	1.09	0.91	18.53	41.10	24.31	28.48	37.57
240 Z 30	9.47	21.97	2.58	2.15	1.72	1.44	1.29	1.08	21.97	54.07	32.87	38.34	50.24
300 Z 20	8.02	20.35	2.39	1.00	1.60	1.33	1.20	1.00	29.82	32.56	19.16	24.98	32.56
300 Z 25	10.02	33.96	3.00	3.33	2.66	2.22	1.00	1.66	36.99	54.34	35.00	45.44	54.34
300 Z 30	11.97	43.98	5.17	4.31	3.45	2.87	2.59	2.16	43.98	75.53	50.56	65.37	75.53
Span = 9.0m													
240 Z 18	5.77	12.06	1.34	1.12	0.89	0.74	0.67		12.06	20.97	11.15	12.84	16.61
240 Z 20	6.39	13.36	1.48	1.24	0.99	0.82	0.74		13.36	26.17	14.38	16.53	21.35
240 Z 25	7.94	16.53	1.84	1.53	1.22	1.02	0.92	0.77	16.53	38.82	22.37	25.61	32.85
240 Z 30	9.47	19.59	2.18	1.81	1.45	1.21	1.09	0.91	19.59	51.07	30.25	34.50	43.97
300 Z 20	8.02	19.22	2.14	1.78	1.42	1.19	1.07	0.89	26.59	30.75	17.44	22.18	30.75
300 Z 25	10.02	32.08	3.56	2.97	2.38	1.98	1.78	1.49	32.99	51.32	31.86	40.37	51.32
300 Z 30	11.97	39.23	4.36	3.63	2.91	2.42	2.18	1.82	39.23	71.34	46.05	58.12	71.34
Span = 9.5m													
240 Z 20	6.39	11.00	1.26	1.05	0.84	0.70			11.00	24.79	13.31	14.98	18.80
240 Z 25	7.94	14.83	1.56	1.30	1.04	0.87	0.78		14.83	36.77	20.71	23.22	28.96
240 Z 30	9.47	17.59	1.85	1.54	1.23	1.03	0.93	0.77	17.59	48.38	28.02	31.31	38.80
300 Z 20	8.02	18.21	1.92	1.60	1.28	1.06	0.96	0.80	23.87	29.13	15.99	19.87	27.84
300 Z 25	10.02	29.61	3.12	2.60	2.08	1.73	1.56	1.30	29.61	48.62	29.22	36.19	48.62
300 Z 30	11.97	35.21	3.71	3.09	2.47	2.06	1.85	1.54	35.21	67.58	42.25	52.12	67.58
Span = 10.0m													
240 Z 20	6.39	10.83	1.08	0.90	0.72				10.83	23.55	12.39	13.67	16.69
240 Z 25	7.94	13.39	1.34	1.12	0.89	0.74			13.39	34.93	19.28	21.21	25.73
240 Z 30	9.47	15.87	1.59	1.32	1.06	0.88	0.79		15.87	45.96	26.10	28.62	34.50
300 Z 20	8.02	17.30	1.73	1.44	1.15	0.96	0.86	0.72	21.54	27.68	14.75	17.94	24.67
300 Z 25	10.02	26.72	2.67	2.23	1.78	1.48	1.34	1.11	26.72	46.19	26.98	32.69	44.76
300 Z 30	11.97	31.78	3.18	2.65	2.12	1.77	1.59	1.32	31.78	64.20	39.02	47.11	64.20
Span = 10.5m													
300 Z 20	8.02	16.47	1.57	1.31	1.05	0.87	0.78		19.54	26.36	13.69	16.31	21.98
300 Z 25	10.02	24.24	2.31	1.92	1.54	1.28	1.15	0.96	24.24	43.99	25.05	29.74	39.88
300 Z 30	11.97	28.82	2.74	2.29	1.83	1.52	1.37	1.14	28.82	61.15	36.24	42.88	57.23
Span = 11.0m													
300 Z 20	8.02	15.73	1.43	1.19	0.95	0.79	0.71		17.80	25.16	12.77	14.93	19.68
300 Z 25	10.02	22.08	2.01	1.67	1.34	1.12	1.00	0.84	22.08	41.99	23.37	27.22	35.73
300 Z 30	11.97	26.26	2.39	1.99	1.59	1.33	1.19	0.99	26.26	58.37	33.83	39.27	51.29
Span = 11.5m													
300 Z 20	8.02	15.04	1.31	1.09	0.87	0.73			16.29	24.07	11.97	13.74	17.71
300 Z 25	10.02	20.21	1.76	1.46	1.17	0.98	0.88	0.73	20.21	40.17	21.91	25.06	32.17
300 Z 30	11.97	24.03	2.09	1.74	1.39	1.16	1.04	0.87	24.03	55.83	31.72	36.18	46.20

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 12.0m													
300 Z 25	10.02	18.56	1.55	1.29	1.03	0.86	0.77		18.56	38.49	20.62	23.20	29.11
300 Z 30	11.97	22.07	1.84	1.53	1.23	1.02	0.92	0.77	22.07	53.50	29.86	33.50	41.84

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	11.20	3.73	3.11	2.49	2.07	1.87	1.56	27.26	17.91	17.91	17.91	17.91
140 Z 15	3.26	13.15	4.38	3.65	2.92	2.44	2.19	1.83	29.10	21.04	21.04	21.04	21.04
140 Z 16	3.48	15.10	5.03	4.20	3.36	2.80	2.52	2.10	30.96	24.17	24.17	24.17	24.17
140 Z 18	3.90	18.95	6.32	5.26	4.21	3.51	3.16	2.63	34.62	30.32	30.32	30.32	30.32
140 Z 20	4.32	22.76	7.59	6.32	5.06	4.21	3.79	3.16	38.27	36.42	36.42	36.42	36.42
Span = 3.5m													
140 Z 14	3.06	9.89	2.83	2.35	1.88	1.57	1.41	1.18	20.03	15.82	15.82	15.82	15.82
140 Z 15	3.26	11.59	3.31	2.76	2.21	1.84	1.66	1.38	21.38	18.54	18.54	18.54	18.54
140 Z 16	3.48	13.28	3.79	3.16	2.53	2.11	1.90	1.58	22.74	21.25	21.25	21.25	21.25
140 Z 18	3.90	16.62	4.75	3.96	3.17	2.64	2.37	1.98	25.44	26.60	26.60	26.60	26.60
140 Z 20	4.32	19.93	5.69	4.75	3.80	3.16	2.85	2.37	28.12	31.89	31.89	31.89	31.89
Span = 4.0m													
140 Z 14	3.06	8.84	2.21	1.84	1.47	1.23	1.11	0.92	15.33	14.15	14.15	14.15	14.15
140 Z 15	3.26	10.34	2.59	2.15	1.72	1.44	1.29	1.08	16.37	16.55	16.55	16.55	16.55
140 Z 16	3.48	11.84	2.96	2.47	1.97	1.64	1.48	1.23	17.41	18.94	18.94	18.94	18.94
140 Z 18	3.90	14.79	3.70	3.08	2.47	2.05	1.85	1.54	19.47	23.67	23.67	23.67	23.67
140 Z 20	4.32	17.71	4.43	3.69	2.95	2.46	2.21	1.85	21.53	28.34	28.34	28.34	28.34
170 Z 14	3.38	11.12	2.78	2.32	1.85	1.54	1.39	1.16	24.15	17.79	17.79	17.79	17.79
170 Z 15	3.62	13.05	3.26	2.72	2.17	1.81	1.63	1.36	25.80	20.87	20.87	20.87	20.87
170 Z 16	3.86	14.97	3.74	3.12	2.50	2.08	1.87	1.56	27.45	23.95	23.95	23.95	23.95
170 Z 18	4.33	18.77	4.69	3.91	3.13	2.61	2.35	1.96	30.73	30.03	30.03	30.03	30.03
170 Z 20	4.79	22.54	5.63	4.69	3.76	3.13	2.82	2.35	33.00	36.06	36.06	36.06	36.06
170 Z 25	5.94	31.63	7.91	6.59	5.27	4.39	3.95	3.29	41.84	50.60	50.60	50.60	50.60
200 Z 14	3.92	11.08	2.77	2.31	1.85	1.54	1.39	1.15	38.96	17.74	17.74	17.74	17.74
200 Z 15	4.20	13.73	3.43	2.86	2.29	1.91	1.72	1.43	41.64	21.97	21.97	21.97	21.97

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 4.5m													
140 Z 14	3.06	7.99	1.78	1.48	1.18	0.99	0.89	0.74	12.11	12.78	11.76	12.78	12.78
140 Z 15	3.26	9.33	2.07	1.73	1.38	1.15	1.04	0.86	12.93	14.93	14.06	14.83	14.93
140 Z 16	3.48	10.68	2.37	1.98	1.58	1.32	1.19	0.99	13.76	17.08	16.37	17.08	17.08
140 Z 18	3.90	13.32	2.96	2.47	1.97	1.64	1.48	1.23	15.39	21.31	20.94	21.31	21.31
140 Z 20	4.32	15.93	3.54	2.95	2.36	1.97	1.77	1.48	17.01	25.49	25.49	25.49	25.49
170 Z 14	3.38	10.09	2.24	1.87	1.49	1.25	1.12	0.93	19.08	16.14	13.72	16.14	16.14
170 Z 15	3.62	11.82	2.63	2.19	1.75	1.46	1.31	1.09	20.38	18.91	16.40	18.91	18.91
170 Z 16	3.86	13.55	3.01	2.51	2.01	1.67	1.51	1.25	21.69	21.67	19.09	21.67	21.67
170 Z 18	4.33	16.96	3.77	3.14	2.51	2.09	1.88	1.57	24.28	27.13	24.41	27.13	27.13
170 Z 20	4.79	20.33	4.52	3.77	3.01	2.51	2.26	1.88	26.86	32.53	29.70	32.53	32.53
170 Z 25	5.94	28.49	6.33	5.28	4.22	3.52	3.17	2.64	33.06	45.58	42.62	45.58	45.58
200 Z 14	3.92	10.18	2.26	1.89	1.51	1.26	1.13	0.94	30.78	16.30	14.94	16.30	16.30
200 Z 15	4.20	12.56	2.79	2.33	1.86	1.55	1.40	1.16	32.90	20.10	19.10	20.10	20.10
200 Z 16	4.48	14.93	3.32	2.76	2.21	1.84	1.66	1.38	35.04	23.89	23.25	23.89	23.89
Span = 5.0m													
140 Z 14	3.06	7.28	1.46	1.21	0.97	0.81	0.73		9.81	11.65	9.82	11.65	11.65
140 Z 15	3.26	8.50	1.70	1.42	1.13	0.94	0.85	0.71	10.48	13.60	11.74	13.60	13.60
140 Z 16	3.48	9.72	1.94	1.62	1.30	1.08	0.97	0.81	11.14	15.54	13.67	15.54	15.54
140 Z 18	3.90	12.11	2.42	2.02	1.61	1.35	1.21	1.01	12.46	19.37	17.50	19.37	19.37
140 Z 20	4.32	13.78	2.76	2.30	1.84	1.53	1.38	1.15	13.78	23.16	21.32	23.16	23.16
170 Z 14	3.38	9.23	1.85	1.54	1.23	1.03	0.92	0.77	15.46	14.77	11.41	14.77	14.77
170 Z 15	3.62	10.80	2.16	1.80	1.44	1.20	1.08	0.90	16.51	17.28	13.65	17.28	17.28
170 Z 16	3.86	12.36	2.47	2.06	1.65	1.37	1.24	1.03	17.57	19.78	15.89	19.78	19.78
170 Z 18	4.33	15.45	3.09	2.58	2.06	1.72	1.55	1.29	19.67	24.73	20.33	24.73	24.73
170 Z 20	4.79	18.51	3.70	3.09	2.47	2.06	1.85	1.54	21.76	29.62	24.75	29.62	29.62
170 Z 25	5.94	25.90	5.18	4.32	3.45	2.88	2.59	2.16	26.78	41.45	35.57	41.45	41.45
200 Z 14	3.92	9.40	1.88	1.57	1.25	1.04	0.94	0.78	24.93	15.04	12.28	15.04	15.04
200 Z 15	4.20	11.56	2.31	1.93	1.54	1.28	1.16	0.96	26.65	18.50	15.70	18.50	18.50
200 Z 16	4.48	13.71	2.74	2.29	1.83	1.52	1.37	1.14	28.38	21.94	19.11	21.94	21.94
200 Z 18	5.03	17.96	3.59	2.99	2.40	1.00	1.80	1.50	31.80	28.74	25.87	28.74	28.74
200 Z 20	5.58	22.17	4.43	3.70	2.96	2.46	2.22	1.85	35.21	35.47	32.58	35.47	35.47
200 Z 25	6.92	32.39	6.48	5.40	4.32	3.60	3.24	2.70	43.45	51.82	48.97	51.82	51.82
240 Z 15	4.81	12.87	2.57	2.15	1.72	1.43	1.29	1.07	42.87	20.59	16.88	20.59	20.59
240 Z 16	5.13	15.71	3.14	2.62	2.10	1.75	1.57	1.31	45.67	25.14	21.26	25.14	25.14
240 Z 18	5.77	21.34	4.27	3.56	2.85	2.37	2.13	1.78	51.23	34.14	29.92	34.14	34.14

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.5m													
140 Z 14	3.06	6.69	1.22	1.01	0.81	0.68			8.11	10.71	8.40	10.00	10.71
140 Z 15	3.26	7.80	1.42	1.18	0.95	0.79	0.71		8.66	12.48	10.05	11.95	12.48
140 Z 16	3.48	8.91	1.62	1.35	1.08	0.90	0.81	0.68	9.21	14.26	11.71	13.90	14.26
140 Z 18	3.90	10.30	1.87	1.56	1.25	1.04	0.94	0.78	10.30	17.76	14.99	17.76	17.76
140 Z 20	4.32	11.39	2.07	1.73	1.38	1.15	1.04	0.86	11.39	21.21	18.28	21.21	21.21
170 Z 14	3.38	8.50	1.55	1.29	1.03	0.86	0.77		12.77	13.60	9.73	12.51	13.60
170 Z 15	3.62	9.93	1.81	1.51	1.20	1.00	0.90	0.75	13.64	15.90	11.65	14.95	15.90
170 Z 16	3.86	11.37	2.07	1.72	1.38	1.15	1.03	0.86	14.52	18.19	13.56	17.38	18.19
170 Z 18	4.33	14.19	2.58	2.15	1.72	1.43	1.29	1.08	16.26	22.71	17.36	22.20	22.71
170 Z 20	4.79	16.99	3.09	2.57	2.06	1.72	1.54	1.29	17.98	27.19	21.15	26.97	27.19
170 Z 25	5.94	22.13	4.02	3.35	2.68	2.24	2.01	1.68	22.13	37.00	30.44	38.00	37.00
200 Z 14	3.92	8.72	1.59	1.32	1.06	0.88	0.79		20.60	13.96	10.36	13.96	13.96
200 Z 15	4.20	10.70	1.95	1.62	1.30	1.08	0.97	0.81	22.02	17.12	13.25	17.12	17.12
200 Z 16	4.48	12.67	2.30	1.92	1.54	1.28	1.15	0.96	23.45	20.27	16.14	20.27	20.27
200 Z 18	5.03	16.56	3.01	2.51	2.01	1.67	1.51	1.25	26.28	26.50	21.85	26.50	26.50
200 Z 20	5.58	20.41	3.71	3.09	2.47	2.06	1.86	1.55	29.10	32.66	27.53	32.66	32.66
200 Z 25	6.92	29.77	5.41	4.51	3.61	3.01	2.71	2.26	35.91	47.63	41.44	47.63	47.63
240 Z 15	4.81	12.01	2.18	1.82	1.46	1.21	1.09	0.91	35.43	19.21	14.10	19.21	19.21
240 Z 16	5.13	14.61	2.66	2.21	1.77	1.48	1.33	1.11	37.75	23.38	17.75	23.38	23.38
240 Z 18	5.77	19.77	3.59	2.00	2.40	1.00	1.80	1.50	42.34	31.64	25.00	31.64	31.64
Span = 6.0m													
140 Z 14	3.06	6.19	1.03	0.86	0.69				6.81	9.90	7.33	8.39	9.90
140 Z 15	3.26	7.21	1.20	1.00	0.80				7.27	11.53	8.78	10.03	11.53
140 Z 16	3.48	7.74	1.29	1.07	0.86	0.72			7.74	13.17	10.23	11.67	13.17
140 Z 18	3.90	8.66	1.44	1.20	0.96	0.80	0.72		8.66	16.39	13.10	14.92	16.39
140 Z 20	4.32	9.57	1.59	1.33	1.06	0.89	0.80		9.57	19.57	15.97	18.15	19.57
170 Z 14	3.38	7.87	1.31	1.09	0.87	0.73			10.73	12.60	8.47	10.51	12.60
170 Z 15	3.62	9.20	1.53	1.28	1.02	0.85	0.77		11.46	14.71	10.14	12.57	14.71
170 Z 16	3.86	10.52	1.75	1.46	1.17	0.97	0.88	0.73	12.20	16.82	11.81	14.62	16.82
170 Z 18	4.33	13.12	2.19	1.82	1.46	1.21	1.09	0.91	13.66	20.99	15.13	18.68	20.99
170 Z 20	4.79	15.11	2.52	2.10	1.68	1.40	1.26	1.05	15.11	25.11	18.44	22.71	25.11
170 Z 25	5.94	18.59	3.10	2.58	2.07	1.72	1.55	1.29	18.59	35.07	26.57	32.53	35.07
200 Z 14	3.92	8.13	1.35	1.13	0.90	0.75	0.68		17.31	13.00	8.93	11.71	13.00
200 Z 15	4.20	9.95	1.66	1.38	1.11	0.92	0.83	0.69	18.51	15.92	11.43	14.97	15.92
200 Z 16	4.48	11.77	1.96	1.63	1.31	1.09	0.98	0.82	19.71	18.83	13.92	18.21	18.83
200 Z 18	5.03	15.36	2.56	2.13	1.71	1.42	1.28	1.07	22.09	24.57	18.86	24.57	24.57
200 Z 20	5.58	18.91	3.15	2.63	2.10	1.75	1.58	1.31	24.45	30.25	23.77	30.25	30.25
200 Z 25	6.92	27.53	4.59	3.82	3.06	2.55	2.29	1.91	30.18	44.05	35.81	44.05	44.05
240 Z 15	4.81	11.23	1.87	1.56	1.25	1.04	0.94	0.78	29.77	17.98	12.04	16.47	17.98
240 Z 16	5.13	13.64	2.27	1.90	1.52	1.26	1.14	0.95	31.72	21.83	15.16	20.72	21.83
240 Z 18	5.77	18.41	3.07	2.56	2.05	1.70	1.53	1.28	35.58	29.45	21.36	29.13	29.45
240 Z 20	6.39	23.13	3.85	3.21	2.57	2.14	1.93	1.61	39.42	37.00	27.52	37.00	37.00

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Purlin Centres in millimetres						Deflection Span/180	Ultimate U.D.L. in kN / span: Gravity Load	Uplift - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.5m													
170 Z 14	3.38	7.33	1.13	0.94	0.75				9.15	11.73	7.50	9.01	11.73
170 Z 15	3.62	8.56	1.32	1.10	0.88	0.73			9.77	13.69	8.98	10.77	13.69
170 Z 16	3.86	9.78	1.50	1.25	1.00	0.84	0.75		10.40	15.65	10.46	12.53	15.65
170 Z 18	4.33	11.64	1.79	1.49	1.19	0.99	0.90	0.75	11.64	19.51	13.40	16.02	19.51
170 Z 20	4.79	12.87	1.98	1.65	1.32	1.10	0.99	0.83	12.87	23.33	16.33	19.49	23.33
170 Z 25	5.94	15.84	2.44	2.03	1.63	1.35	1.22	1.02	15.84	32.56	23.56	27.96	32.56
200 Z 14	3.92	7.60	1.17	0.97	0.78				14.75	12.17	7.84	9.95	12.17
200 Z 15	4.20	9.30	1.43	1.19	0.95	0.79	0.72		15.77	14.88	10.03	12.72	14.88
200 Z 16	4.48	10.98	1.69	1.41	1.13	0.94	0.84	0.70	16.79	17.57	12.22	15.47	17.57
200 Z 18	5.03	14.31	2.20	1.83	1.47	1.22	1.10	0.92	18.82	22.90	16.55	20.93	22.90
200 Z 20	5.58	17.61	2.71	2.26	1.81	1.50	1.35	1.13	20.84	28.17	20.87	26.33	28.17
200 Z 25	6.92	25.60	3.94	3.28	2.63	2.19	1.97	1.64	25.71	40.97	31.48	39.50	40.97
240 Z 15	4.81	10.55	1.62	1.35	1.08	0.90	0.81	0.68	25.37	16.88	10.47	13.86	16.88
240 Z 16	5.13	12.79	1.97	1.64	1.31	1.09	0.98	0.82	27.03	20.46	13.19	17.45	20.46
240 Z 18	5.77	17.21	2.65	2.21	1.77	1.47	1.32	1.10	30.31	27.54	18.59	24.54	27.54
240 Z 20	6.39	21.59	3.32	2.77	2.21	1.85	1.66	1.38	33.59	34.55	23.96	31.57	34.55
240 Z 25	7.94	32.27	4.96	4.14	3.31	2.76	2.48	2.07	41.54	51.63	37.13	48.66	51.63
240 Z 30	9.47	42.62	6.56	5.46	4.37	3.64	3.28	2.73	49.24	68.19	50.06	65.23	68.19
Span = 7.0m													
170 Z 14	3.38	6.86	0.98	0.82					7.89	10.98	6.72	7.84	10.98
170 Z 15	3.62	8.00	1.14	0.95	0.76				8.42	12.81	8.05	9.38	12.81
170 Z 16	3.86	8.96	1.28	1.07	0.85	0.71			8.96	14.63	9.38	10.92	14.63
170 Z 18	4.33	10.04	1.43	1.19	0.96	0.80	0.72		10.04	18.23	12.02	13.97	18.23
170 Z 20	4.79	11.10	1.59	1.32	1.06	0.88	0.79		11.10	21.79	14.66	17.00	21.79
170 Z 25	5.94	13.66	1.95	1.63	1.30	1.08	0.98	0.81	13.66	30.39	21.16	24.42	30.39
200 Z 14	3.92	7.14	1.02	0.85	0.68				12.72	11.43	6.98	8.59	11.43
200 Z 15	4.20	8.72	1.25	1.04	0.83	0.69			13.60	13.96	8.93	10.98	13.96
200 Z 16	4.48	10.29	1.47	1.23	0.98	0.82	0.74		14.48	16.47	10.87	13.37	16.47
200 Z 18	5.03	13.40	1.91	1.60	1.28	1.06	0.96	0.80	16.23	21.44	14.74	18.08	21.44
200 Z 20	5.58	16.47	2.35	1.96	1.57	1.31	1.18	0.98	17.97	26.35	18.59	22.77	26.35
200 Z 25	6.92	22.17	3.17	2.64	2.11	1.76	1.58	1.32	22.17	38.28	28.07	34.19	38.28
240 Z 15	4.81	9.94	1.42	1.18	0.95	0.79	0.71		21.87	15.90	9.25	11.87	15.90
240 Z 16	5.13	12.03	1.72	1.43	1.15	0.95	0.86	0.72	23.30	19.24	11.65	14.94	19.24
240 Z 18	5.77	16.16	2.31	1.92	1.54	1.28	1.15	0.96	26.14	25.85	16.43	21.02	25.85
240 Z 20	6.39	20.25	2.89	2.41	1.93	1.61	1.45	1.21	28.96	32.39	21.17	27.04	32.39
240 Z 25	7.94	30.21	4.32	3.60	2.88	2.40	2.16	1.80	35.82	48.34	32.84	41.73	48.34
240 Z 30	9.47	39.87	5.70	4.75	3.80	3.16	2.85	2.37	42.46	63.79	44.32	56.00	63.79

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
200 Z 16	4.48	9.68	1.29	1.08	0.86	0.72			12.61	15.50	9.79	11.71	15.50
200 Z 18	5.03	12.59	1.68	1.40	1.12	0.93	0.84	0.70	14.13	20.15	13.28	15.85	20.15
200 Z 20	5.58	15.47	2.06	1.72	1.38	1.15	1.03	0.86	15.65	24.75	16.76	19.96	24.75
200 Z 25	6.92	19.31	2.58	2.15	1.72	1.43	1.29	1.07	19.31	35.93	25.31	30.01	35.93
240 Z 15	4.81	9.39	1.25	1.04	0.83	0.70			19.05	15.02	8.27	10.30	14.46
240 Z 16	5.13	11.35	1.51	1.26	1.01	0.84	0.76		20.30	18.16	10.42	12.97	18.16
240 Z 18	5.77	15.22	2.03	1.69	1.35	1.13	1.01	0.85	22.77	24.35	14.70	18.26	24.35
240 Z 20	6.39	19.05	2.54	2.12	1.69	1.41	1.27	1.06	25.23	30.49	18.95	23.50	30.49
240 Z 25	7.94	28.39	3.79	3.15	2.52	2.10	1.89	1.58	31.20	45.43	29.42	36.30	45.43
240 Z 30	9.47	36.99	4.93	4.11	3.29	2.74	2.47	2.05	36.99	59.91	39.73	48.77	59.91
Span = 8.0m													
200 Z 16	4.48	9.14	1.14	0.95	0.76				11.09	14.63	8.91	10.38	13.60
200 Z 18	5.03	11.88	1.48	1.24	0.99	0.82	0.74		12.42	19.00	12.08	14.06	18.37
200 Z 20	5.58	13.76	1.72	1.43	1.15	0.96	0.86	0.72	13.76	23.33	15.25	17.72	23.08
200 Z 25	6.92	16.97	2.12	1.77	1.41	1.18	1.06	0.88	16.97	33.84	23.04	26.66	33.84
240 Z 15	4.81	8.89	1.11	0.93	0.74				16.75	14.23	7.48	9.06	12.42
240 Z 16	5.13	10.74	1.34	1.12	0.89	0.75	0.67		17.84	17.18	9.42	11.41	15.63
240 Z 18	5.77	14.38	1.80	1.50	1.20	1.00	0.90	0.75	20.01	23.01	13.29	16.07	21.95
240 Z 20	6.39	17.99	2.25	1.87	1.50	1.25	1.12	0.94	22.17	28.79	17.14	20.68	28.20
240 Z 25	7.94	26.78	3.35	2.79	2.23	1.86	1.67	1.39	27.42	42.85	26.62	31.98	42.85
240 Z 30	9.47	32.51	4.06	3.39	2.71	2.26	2.03	1.69	32.51	56.48	35.98	43.01	56.48
Span = 8.5m													
240 Z 18	5.77	13.63	1.60	1.34	1.07	0.89	0.80		17.73	21.81	12.13	14.29	19.02
240 Z 20	6.39	17.04	2.00	1.67	1.34	1.11	1.00	0.84	19.64	27.26	15.64	18.40	24.43
240 Z 25	7.94	24.29	2.86	2.38	1.91	1.59	1.43	1.19	24.29	40.54	24.31	28.48	37.57
240 Z 30	9.47	28.80	3.39	2.82	2.26	1.88	1.69	1.41	28.80	53.41	32.87	38.34	50.24
300 Z 20	8.02	19.26	2.27	1.89	1.51	1.26	1.13	0.94	39.08	30.82	19.16	24.98	30.82
300 Z 25	10.02	32.57	3.83	3.19	2.55	2.13	1.92	1.60	48.48	52.11	35.00	45.44	52.11
300 Z 30	11.97	45.53	5.36	4.46	3.57	2.98	2.68	2.23	57.65	72.85	50.56	65.37	72.85
Span = 9.0m													
240 Z 18	5.77	12.95	1.44	1.20	0.96	0.80	0.72		15.81	20.73	11.15	12.84	16.61
240 Z 20	6.39	16.18	1.80	1.50	1.20	1.00	0.90	0.75	17.52	25.89	14.38	16.53	21.35
240 Z 25	7.94	21.67	2.41	2.01	1.60	1.34	1.20	1.00	21.67	38.47	22.37	25.61	32.85
240 Z 30	9.47	25.69	2.85	2.38	1.90	1.59	1.43	1.19	25.69	50.66	30.25	34.50	43.97
300 Z 20	8.02	18.37	2.04	1.70	1.36	1.13	1.02	0.85	34.86	29.39	17.44	22.18	29.39
300 Z 25	10.02	30.98	3.44	2.87	2.30	1.91	1.72	1.43	43.25	49.57	31.86	40.37	49.57
300 Z 30	11.97	43.27	4.81	4.01	3.21	2.67	2.40	2.00	51.43	69.23	46.05	58.12	69.23

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 9.5m													
240 Z 20	6.39	15.41	1.62	1.35	1.08	0.90	0.81	0.68	15.72	24.65	13.31	14.98	18.80
240 Z 25	7.94	19.45	2.05	1.71	1.36	1.14	1.02	0.85	19.45	36.60	20.71	23.22	28.96
240 Z 30	9.47	23.05	2.43	2.02	1.62	1.35	1.21	1.01	23.05	48.17	28.02	31.31	38.80
300 Z 20	8.02	17.55	1.85	1.54	1.23	1.03	0.92	0.77	31.29	28.08	15.99	19.87	27.84
300 Z 25	10.02	29.54	3.11	2.59	2.07	1.73	1.55	1.30	38.81	47.27	29.22	36.19	47.27
300 Z 30	11.97	41.22	4.34	3.62	2.89	2.41	2.17	1.81	46.16	65.95	42.25	52.12	65.95
Span = 10.0m													
240 Z 20	6.39	14.19	1.42	1.18	0.95	0.79	0.71		14.19	23.52	12.39	13.67	16.69
240 Z 25	7.94	17.55	1.76	1.46	1.17	0.98	0.88	0.73	17.55	34.90	19.28	21.21	25.73
240 Z 30	9.47	20.81	2.08	1.73	1.39	1.16	1.04	0.87	20.81	45.92	26.10	28.62	34.50
300 Z 20	8.02	16.80	1.68	1.40	1.12	0.93	0.84	0.70	28.24	26.87	14.75	17.94	24.67
300 Z 25	10.02	28.22	2.82	2.35	1.88	1.57	1.41	1.18	35.03	45.16	26.98	32.69	44.76
300 Z 30	11.97	39.35	3.94	3.28	2.62	2.19	1.97	1.64	41.66	62.96	39.02	47.11	62.96
Span = 10.5m													
300 Z 20	8.02	16.10	1.53	1.28	1.02	0.85	0.77		25.61	25.77	13.69	16.31	21.98
300 Z 25	10.02	27.02	2.57	2.14	1.72	1.43	1.29	1.07	31.77	43.23	25.05	29.74	39.88
300 Z 30	11.97	37.64	3.59	2.99	2.39	1.99	1.79	1.49	37.78	60.23	33.83	39.27	51.29
Span = 11.0m													
300 Z 20	8.02	15.47	1.41	1.17	0.94	0.78	0.70		23.34	24.75	12.77	14.93	19.68
300 Z 25	10.02	25.91	2.36	1.96	1.57	1.31	1.18	0.98	28.95	41.46	23.37	27.22	35.73
300 Z 30	11.97	34.43	3.13	2.61	2.09	1.74	1.56	1.30	34.43	57.72	36.24	42.88	57.23
Span = 11.5m													
300 Z 20	8.02	14.87	1.29	1.08	0.86	0.72			21.35	23.80	11.97	13.74	17.71
300 Z 25	10.02	24.89	2.16	1.80	1.44	1.20	1.08	0.90	26.49	39.82	21.91	25.06	32.17
300 Z 30	11.97	31.50	2.74	2.28	1.83	1.52	1.37	1.14	31.50	55.41	31.72	36.18	46.20
Span = 12.0m													
300 Z 25	10.02	23.94	1.00	1.66	1.33	1.11	1.00	0.83	24.33	38.31	20.62	23.20	29.11
300 Z 30	11.97	28.93	2.41	2.01	1.61	1.34	1.21	1.00	28.93	53.28	29.86	33.50	41.84

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	9.35	3.12	2.60	2.08	1.73	1.56	1.30	15.77	14.95	12.18	14.95	14.95
140 Z 15	3.26	11.17	3.72	3.10	2.48	2.07	1.86	1.55	16.83	17.87	14.55	17.87	17.87
140 Z 16	3.48	12.99	4.33	3.61	2.89	2.41	2.16	1.80	17.91	20.78	16.93	20.78	20.78
140 Z 18	3.90	16.58	5.53	4.60	3.68	3.07	2.76	2.30	20.03	26.52	21.62	26.52	26.52
140 Z 20	4.32	20.13	6.71	5.59	4.47	3.73	3.35	2.80	22.14	32.20	26.27	32.20	32.20
Span = 3.5m													
140 Z 14	3.06	8.01	2.29	1.91	1.53	1.27	1.14	0.95	11.58	12.82	9.12	12.82	12.82
140 Z 15	3.26	9.57	2.74	2.28	1.82	1.52	1.37	1.14	12.37	15.32	10.91	15.20	15.32
140 Z 16	3.48	11.13	3.18	2.65	2.12	1.77	1.59	1.33	13.16	17.81	12.69	17.67	17.81
140 Z 18	3.90	14.21	4.06	3.38	2.71	2.26	2.03	1.69	14.71	22.73	16.23	22.53	22.73
140 Z 20	4.32	16.26	4.65	3.87	3.10	2.58	2.32	1.94	16.26	27.60	19.74	27.34	27.60
Span = 4.0m													
140 Z 14	3.06	7.01	1.75	1.46	1.17	0.97	0.88	0.73	8.87	11.21	7.21	11.16	11.21
140 Z 15	3.26	8.38	2.09	1.75	1.40	1.16	1.05	0.87	9.47	13.40	8.63	13.32	13.40
140 Z 16	3.48	9.74	2.44	2.03	1.62	1.35	1.22	1.01	10.07	15.58	10.04	15.48	15.58
140 Z 18	3.90	11.27	2.82	2.35	1.88	1.56	1.41	1.17	11.27	19.89	12.85	19.72	19.89
140 Z 20	4.32	12.45	3.11	2.59	2.08	1.73	1.56	1.30	12.45	24.15	15.65	23.92	24.15
170 Z 14	3.38	9.11	2.28	1.90	1.52	1.26	1.14	0.95	13.97	14.57	8.39	13.94	14.57
170 Z 15	3.62	10.89	2.72	2.27	1.81	1.51	1.36	1.13	14.92	17.42	10.04	16.64	17.42
170 Z 16	3.86	12.67	3.17	2.64	2.11	1.76	1.58	1.32	15.88	20.27	11.68	19.34	20.27
170 Z 18	4.33	16.18	4.05	3.37	2.70	2.25	2.02	1.69	17.78	25.89	14.95	24.65	25.89
170 Z 20	4.79	19.66	4.92	4.10	3.28	2.73	2.46	2.05	19.67	31.46	18.19	29.89	31.46
170 Z 25	5.94	24.20	6.05	5.04	4.03	3.36	3.03	2.52	24.20	44.92	26.13	42.50	44.92
200 Z 14	3.92	8.87	2.22	1.85	1.48	1.23	1.11	0.92	22.54	14.19	9.08	14.19	14.19
200 Z 15	4.20	11.34	2.84	2.36	1.89	1.58	1.42	1.18	24.09	18.15	11.60	18.15	18.15
Span = 4.5m													
140 Z 14	3.06	6.23	1.38	1.15	0.92	0.77	0.69		7.01	9.97	5.93	8.71	9.97
140 Z 15	3.26	7.45	1.65	1.38	1.10	0.92	0.83	0.69	7.48	11.91	7.10	10.40	11.91
140 Z 16	3.48	7.96	1.77	1.47	1.18	0.98	0.88	0.74	7.96	13.85	8.27	12.09	13.85
140 Z 18	3.90	8.90	1.98	1.65	1.32	1.10	0.99	0.82	8.90	17.68	10.59	15.42	17.68
140 Z 20	4.32	9.84	2.19	1.82	1.46	1.21	1.09	0.91	9.84	21.47	12.90	18.72	21.47
170 Z 14	3.38	8.09	1.80	1.50	1.20	1.00	0.90	0.75	11.04	12.95	6.88	10.86	12.95
170 Z 15	3.62	9.68	2.15	1.79	1.43	1.19	1.08	0.90	11.79	15.48	8.23	12.98	15.48
170 Z 16	3.86	11.26	2.50	2.08	1.67	1.39	1.25	1.04	12.55	18.01	9.58	15.08	18.01
170 Z 18	4.33	14.05	3.12	2.60	2.08	1.73	1.56	1.30	14.05	23.01	12.26	19.23	23.01
170 Z 20	4.79	15.54	3.45	2.88	2.30	1.92	1.73	1.44	15.54	27.96	14.94	23.34	27.96
170 Z 25	5.94	19.12	4.25	3.54	2.83	2.36	2.12	1.77	19.12	39.93	21.50	33.24	39.93
200 Z 14	3.92	7.88	1.75	1.46	1.17	0.97	0.88	0.73	17.81	12.62	7.34	12.28	12.62
200 Z 15	4.20	10.08	2.24	1.87	1.49	1.24	1.12	0.93	19.03	16.13	9.38	15.68	16.13
200 Z 16	4.48	12.27	2.73	2.27	1.82	1.52	1.36	1.14	20.27	19.64	11.42	19.07	19.64

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Purlin Centres in millimetres						Deflection Span/180	Ultimate U.D.L. in kN / span: Gravity Load	Uplift - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 Z 14	3.06	5.61	1.12	0.93	0.75				5.68	8.97	5.03	6.97	8.97
140 Z 15	3.26	6.06	1.21	1.01	0.81	0.67			6.06	10.72	6.02	8.32	10.72
140 Z 16	3.48	6.45	1.29	1.07	0.86	0.72			6.45	12.47	7.01	9.68	12.47
140 Z 18	3.90	7.21	1.44	1.20	0.96	0.80	0.72		7.21	15.91	8.98	12.35	15.91
140 Z 20	4.32	7.97	1.59	1.33	1.06	0.89	0.80		7.97	19.32	10.95	15.01	19.32
170 Z 14	3.38	7.28	1.46	1.21	0.97	0.81	0.73		8.94	11.66	5.81	8.70	11.66
170 Z 15	3.62	8.71	1.74	1.45	1.16	0.97	0.87	0.73	9.55	13.94	6.96	10.39	13.94
170 Z 16	3.86	10.13	2.03	1.69	1.35	1.13	1.01	0.84	10.16	16.21	8.10	12.08	16.21
170 Z 18	4.33	11.38	2.28	1.90	1.52	1.26	1.14	0.95	11.38	20.71	10.37	15.42	20.71
170 Z 20	4.79	12.59	2.52	2.10	1.68	1.40	1.26	1.05	12.59	25.17	12.64	18.72	25.17
170 Z 25	5.94	15.49	3.10	2.58	2.07	1.72	1.55	1.29	15.49	35.94	18.22	26.72	35.94
200 Z 14	3.92	7.10	1.42	1.18	0.95	0.79	0.71		14.42	11.35	6.13	9.83	11.35
200 Z 15	4.20	9.07	1.81	1.51	1.21	1.01	0.91	0.76	15.42	14.52	7.84	12.55	14.52
200 Z 16	4.48	11.05	2.21	1.84	1.47	1.23	1.10	0.92	16.42	17.68	9.54	15.27	17.68
200 Z 18	5.03	14.95	2.99	2.49	1.99	1.66	1.50	1.25	18.40	23.92	12.93	20.62	23.92
200 Z 20	5.58	18.82	3.76	3.14	2.51	2.09	1.88	1.57	20.37	30.11	16.30	25.91	30.11
200 Z 25	6.92	25.14	5.03	4.19	3.35	2.79	2.51	2.09	25.14	45.17	24.56	38.72	45.17
240 Z 15	4.81	10.19	2.04	1.70	1.36	1.13	1.02	0.85	24.80	16.30	8.25	14.02	16.30
240 Z 16	5.13	12.83	2.57	2.14	1.71	1.43	1.28	1.07	26.42	20.53	10.40	17.64	20.53
240 Z 18	5.77	18.08	3.62	3.01	2.41	2.01	1.81	1.51	29.64	28.93	14.65	24.79	28.93
Span = 5.5m													
170 Z 14	3.38	6.62	1.20	1.00	0.80				7.39	10.60	5.03	7.15	10.60
170 Z 15	3.62	7.89	1.44	1.20	0.96	0.80	0.72		7.89	12.67	6.02	8.54	12.67
170 Z 16	3.86	8.40	1.53	1.27	1.02	0.85	0.76		8.40	14.74	7.01	9.93	14.74
170 Z 18	4.33	9.40	1.71	1.42	1.14	0.95	0.85	0.71	9.40	18.83	8.98	12.68	18.83
170 Z 20	4.79	10.40	1.89	1.58	1.26	1.05	0.95	0.79	10.40	22.88	10.95	15.41	22.88
170 Z 25	5.94	12.80	2.33	1.94	1.55	1.29	1.16	0.97	12.80	32.67	15.80	22.04	32.67
200 Z 14	3.92	6.45	1.17	0.98	0.78				11.92	10.32	5.25	8.03	10.32
200 Z 15	4.20	8.25	1.50	1.25	1.00	0.83	0.75		12.74	13.20	6.71	10.25	13.20
200 Z 16	4.48	10.04	1.83	1.52	1.22	1.01	0.91	0.76	13.57	16.07	8.17	12.47	16.07
200 Z 18	5.03	13.59	2.47	2.06	1.65	1.37	1.24	1.03	15.20	21.75	11.08	16.86	21.75
200 Z 20	5.58	16.84	3.06	2.55	2.04	1.70	1.53	1.28	16.84	27.38	13.97	21.19	27.38
200 Z 25	6.92	20.78	3.78	3.15	2.52	2.10	1.89	1.57	20.78	41.06	21.08	31.71	41.06
240 Z 15	4.81	9.26	1.68	1.40	1.12	0.94	0.84	0.70	20.50	14.82	7.00	11.38	14.82
240 Z 16	5.13	11.67	2.12	1.77	1.41	1.18	1.06	0.88	21.84	18.67	8.81	14.32	18.67
240 Z 18	5.77	16.44	2.99	2.49	1.99	1.66	1.49	1.25	24.49	26.30	12.42	20.12	26.30
240 Z 20	6.39	21.17	3.85	3.21	2.57	2.14	1.92	1.60	27.14	33.86	16.01	25.86	33.86

Boxes greyed out indicate that the allowable working load kN/m² is less than dead load (0.07 kN/m²) plus live load (0.6 kN/m²) = 0.67 kN/m²

ZED PURLIN SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Gravity Load	Uplift - metal Cladding		
			Purlin Centres in millimetres						Span/ 180		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
170 Z 14	3.38	6.07	1.01	0.84	0.67				6.21	9.71	4.43	6.01	9.29
170 Z 15	3.62	6.63	1.11	0.92	0.74				6.63	11.61	5.30	7.18	11.10
170 Z 16	3.86	7.06	1.18	0.98	0.78				7.06	13.51	6.18	8.35	12.89
170 Z 18	4.33	7.90	1.32	1.10	0.88	0.73			7.90	17.26	7.92	10.67	16.43
170 Z 20	4.79	8.74	1.46	1.21	0.97	0.81	0.73		8.74	20.97	9.65	12.98	19.93
170 Z 25	5.94	10.76	1.79	1.49	1.20	1.00	0.90	0.75	10.76	29.95	13.94	18.59	28.34
200 Z 14	3.92	5.91	0.99	0.82					10.02	9.46	4.58	6.69	9.39
200 Z 15	4.20	7.56	1.26	1.05	0.84	0.70	0.63		10.71	12.10	5.86	8.55	12.00
200 Z 16	4.48	9.21	1.53	1.28	1.02	0.85	0.77		11.40	14.73	7.14	10.40	14.59
200 Z 18	5.03	12.46	2.08	1.73	1.38	1.15	1.04	0.87	12.78	19.94	9.68	14.07	19.70
200 Z 20	5.58	14.15	2.36	1.96	1.57	1.31	1.18	0.98	14.15	25.10	12.21	17.69	24.74
200 Z 25	6.92	17.46	2.91	2.42	1.94	1.62	1.45	1.21	17.46	37.64	18.44	26.51	36.89
240 Z 15	4.81	8.49	1.41	1.18	0.94	0.79	0.71		17.22	13.58	6.06	9.41	13.33
240 Z 16	5.13	10.69	1.78	1.49	1.19	0.99	0.89	0.74	18.35	17.11	7.63	11.84	16.77
240 Z 18	5.77	15.07	2.51	2.09	1.67	1.39	1.26	1.05	20.58	24.11	10.76	16.65	23.56
240 Z 20	6.39	19.40	3.23	2.69	2.16	1.80	1.62	1.35	22.80	31.04	13.87	21.40	30.27
240 Z 25	7.94	28.20	4.70	3.92	3.13	2.61	2.35	1.96	28.20	47.97	21.52	32.96	46.52
Span = 6.5m													
200 Z 16	4.48	8.50	1.31	1.09	0.87	0.73			9.71	13.60	6.34	8.84	12.38
200 Z 18	5.03	10.89	1.67	1.40	1.12	0.93	0.84	0.70	10.89	18.40	8.60	11.96	16.71
200 Z 20	5.58	12.05	1.85	1.55	1.24	1.03	0.93	0.77	12.05	23.16	10.85	15.05	20.98
200 Z 25	6.92	14.87	2.29	1.91	1.53	1.27	1.14	0.95	14.87	34.74	16.39	22.57	31.29
240 Z 15	4.81	7.84	1.21	1.00	0.80				14.67	12.54	5.33	7.92	11.38
240 Z 16	5.13	9.87	1.52	1.27	1.01	0.84	0.76		15.63	15.80	6.72	9.97	14.31
240 Z 18	5.77	13.91	2.14	1.78	1.43	1.19	1.07	0.89	17.54	22.25	9.48	14.03	20.11
240 Z 20	6.39	17.91	2.76	2.30	1.84	1.53	1.38	1.15	19.43	28.65	12.22	18.04	25.83
240 Z 25	7.94	24.03	3.70	3.08	2.46	2.05	1.85	1.54	24.03	44.28	18.98	27.81	39.66
240 Z 30	9.47	28.49	4.38	3.65	2.92	2.43	2.19	1.83	28.49	59.44	25.64	37.28	52.91
Span = 7.0m													
200 Z 16	4.48	7.89	1.13	0.94	0.75				8.38	12.63	5.70	7.64	10.52
200 Z 18	5.03	9.39	1.34	1.12	0.89	0.74	0.67		9.39	17.09	7.73	10.33	14.20
200 Z 20	5.58	10.39	1.48	1.24	0.99	0.82	0.74		10.39	21.51	9.75	13.01	17.83
200 Z 25	6.92	12.83	1.83	1.53	1.22	1.02	0.92	0.76	12.83	32.26	14.75	19.54	26.62
240 Z 16	5.13	9.17	1.31	1.09	0.87	0.73			13.48	14.67	6.00	8.54	12.18
240 Z 18	5.77	12.91	1.84	1.54	1.23	1.02	0.92	0.77	15.12	20.66	8.46	12.01	17.11
240 Z 20	6.39	16.63	2.38	1.98	1.58	1.32	1.19	0.99	16.75	26.61	10.92	15.45	21.97
240 Z 25	7.94	20.72	2.96	2.47	1.97	1.64	1.48	1.23	20.72	41.12	16.97	23.84	33.73
240 Z 30	9.47	24.56	3.51	2.92	2.34	1.95	1.75	1.46	24.56	55.20	22.94	32.00	45.01

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED PURLIN SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Purlin Centres in millimetres						Deflection Span/180	Ultimate U.D.L. in kN / span: Gravity Load	Uplift - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
240 Z 18	5.77	12.05	1.61	1.34	1.07	0.89	0.80		13.17	19.28	7.64	10.43	14.60
240 Z 20	6.39	14.59	1.95	1.62	1.30	1.08	0.97	0.81	14.59	24.83	9.86	13.43	18.75
240 Z 25	7.94	18.05	2.41	2.01	1.60	1.34	1.20	1.00	18.05	38.38	15.34	20.74	28.80
240 Z 30	9.47	21.40	2.85	2.38	1.90	1.58	1.43	1.19	21.40	51.52	20.74	27.87	38.45
Span = 8.0m													
240 Z 18	5.77	11.30	1.41	1.18	0.94	0.78	0.71		11.58	18.08	6.97	9.18	12.54
240 Z 20	6.39	12.83	1.60	1.34	1.07	0.89	0.80		12.83	23.28	9.00	11.82	16.11
240 Z 25	7.94	15.86	1.98	1.65	1.32	1.10	0.99	0.83	15.86	35.98	13.99	18.27	24.76
240 Z 30	9.47	18.81	2.35	1.96	1.57	1.31	1.18	0.98	18.81	48.30	18.94	24.57	33.09
Span = 8.5m													
240 Z 18	5.77	10.25	1.21	1.01	0.80	0.67			10.25	17.02	6.41	8.17	10.87
240 Z 20	6.39	11.36	1.34	1.11	0.89	0.74			11.36	21.91	8.27	10.52	13.96
240 Z 25	7.94	14.05	1.65	1.38	1.10	0.92	0.83	0.69	14.05	33.86	12.87	16.27	21.47
240 Z 30	9.47	16.66	1.96	1.63	1.31	1.09	0.98	0.82	16.66	45.46	17.42	21.91	28.71
300 Z 20	8.02	14.69	1.73	1.44	1.15	0.96	0.86	0.72	22.61	23.51	9.81	14.27	20.48
300 Z 25	10.02	26.80	3.15	2.63	2.10	1.75	1.58	1.31	28.05	42.88	17.95	25.97	37.15
300 Z 30	11.97	33.35	3.92	3.27	2.62	2.18	1.96	1.63	33.35	61.79	25.96	37.35	53.25
Span = 9.0m													
240 Z 20	6.39	10.14	1.13	0.94	0.75				10.14	20.69	7.65	9.45	12.20
240 Z 25	7.94	12.53	1.39	1.16	0.93	0.77	0.70		12.53	31.98	11.92	14.63	18.77
240 Z 30	9.47	14.86	1.65	1.38	1.10	0.92	0.83	0.69	14.86	42.93	16.14	19.71	25.13
300 Z 20	8.02	13.88	1.54	1.28	1.03	0.86	0.77		20.17	22.20	9.00	12.68	18.03
300 Z 25	10.02	25.02	2.78	2.32	1.85	1.54	1.39	1.16	25.02	40.50	16.47	23.07	32.69
300 Z 30	11.97	29.75	3.31	2.75	2.20	1.84	1.65	1.38	29.75	58.35	23.84	33.21	46.86
Span = 9.5m													
300 Z 20	8.02	13.15	1.38	1.15	0.92	0.77	0.69		18.10	21.04	8.31	11.35	15.91
300 Z 25	10.02	22.45	2.36	1.97	1.58	1.31	1.18	0.98	22.45	38.37	15.22	20.68	28.85
300 Z 30	11.97	26.70	2.81	2.34	1.87	1.56	1.41	1.17	26.70	55.28	22.03	29.78	41.37
Span = 10.0m													
300 Z 20	8.02	12.49	1.25	1.04	0.83	0.69			16.34	19.98	7.72	10.25	14.10
300 Z 25	10.02	20.26	2.03	1.69	1.35	1.13	1.01	0.84	20.26	36.45	14.14	18.68	25.58
300 Z 30	11.97	24.10	2.41	2.01	1.61	1.34	1.20	1.00	24.10	52.52	20.48	26.92	36.69
Span = 10.5m													
300 Z 20	8.02	11.90	1.13	0.94	0.76				14.82	19.03	7.21	9.32	12.56
300 Z 25	10.02	18.38	1.75	1.46	1.17	0.97	0.88	0.73	18.38	34.71	13.21	16.99	22.79
300 Z 30	11.97	21.86	2.08	1.73	1.39	1.16	1.04	0.87	21.86	50.02	19.13	24.50	32.70
Span = 11.0m													
300 Z 20	8.02	11.35	1.03	0.86	0.69				13.50	18.17	6.77	8.53	11.24
300 Z 25	10.02	16.75	1.52	1.27	1.01	0.85	0.76		16.75	33.13	12.39	15.56	20.41
300 Z 30	11.97	19.91	1.81	1.51	1.21	1.01	0.91	0.75	19.91	47.74	17.96	22.44	29.31

Boxes greyed out indicate that the allowable working load kN/m^2 is less than dead load (0.07 kN/m^2) plus live load (0.6 kN/m^2) = 0.67 kN/m^2

ZED RAILS LOAD TABLES

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	14.12	4.71	3.92	3.14	2.62	2.35	1.96	24.95	19.77	19.77	19.77	19.77
140 Z 15	3.26	16.46	5.49	4.57	3.66	3.05	2.74	2.29	26.64	23.04	23.04	23.04	23.04
140 Z 16	3.48	18.79	6.26	5.22	4.18	3.48	3.13	2.61	28.34	26.31	26.31	26.31	26.31
140 Z 18	3.90	23.39	7.80	6.50	5.20	4.33	3.90	3.25	31.69	32.74	32.74	32.74	32.74
140 Z 20	4.32	27.93	9.31	7.76	6.21	5.17	4.66	3.88	35.03	39.10	39.10	39.10	39.10
Span = 3.5m													
140 Z 14	3.06	12.11	3.46	2.88	2.31	1.92	1.73	1.44	18.33	16.95	16.95	16.95	16.95
140 Z 15	3.26	14.11	4.03	3.36	2.69	2.24	2.02	1.68	19.57	19.75	19.75	19.75	19.75
140 Z 16	3.48	16.11	4.60	3.83	3.07	2.56	2.30	1.92	20.82	22.55	22.55	22.55	22.55
140 Z 18	3.90	20.05	5.73	4.77	3.82	3.18	2.86	2.39	23.28	28.06	28.06	28.06	28.06
140 Z 20	4.32	23.94	6.84	5.70	4.56	3.80	3.42	2.85	25.74	33.52	33.52	33.52	33.52
Span = 4.0m													
140 Z 14	3.06	10.59	2.65	2.21	1.77	1.47	1.32	1.10	14.03	14.83	14.55	14.83	14.83
140 Z 15	3.26	12.34	3.09	2.57	2.06	1.71	1.54	1.29	14.98	17.28	17.28	17.28	17.28
140 Z 16	3.48	14.09	3.52	2.94	2.35	1.96	1.76	1.47	15.94	19.73	19.73	19.73	19.73
140 Z 18	3.90	17.54	4.38	3.65	2.92	2.44	2.19	1.83	17.83	24.56	24.56	24.56	24.56
140 Z 20	4.32	19.70	4.93	4.11	3.28	2.74	2.46	2.05	19.70	29.33	29.33	29.33	29.33
170 Z 14	3.38	13.76	3.44	2.87	2.29	1.91	1.72	1.43	22.11	19.26	17.04	19.26	19.26
170 Z 15	3.62	16.05	4.01	3.34	2.67	2.23	2.01	1.67	23.61	22.46	20.37	22.46	22.46
170 Z 16	3.86	18.33	4.58	3.82	3.05	2.55	2.29	1.91	25.13	25.66	23.70	25.66	25.66
170 Z 18	4.33	22.83	5.71	4.76	3.80	3.17	2.85	2.38	28.13	31.96	30.28	31.96	31.96
170 Z 20	4.79	27.29	6.82	5.68	4.55	3.79	3.41	2.84	31.12	38.20	36.82	38.20	38.20
170 Z 25	5.94	38.05	9.51	7.93	6.34	5.28	4.76	3.96	38.30	53.27	52.72	53.27	53.27
200 Z 14	3.92	14.65	3.66	3.05	2.44	2.03	1.83	1.53	35.66	20.51	18.81	20.51	20.51
200 Z 15	4.20	17.84	4.46	3.72	2.97	2.48	2.23	1.86	38.12	24.98	24.04	24.98	24.98
Span = 4.5m													
140 Z 14	3.06	9.42	2.09	1.74	1.39	1.16	1.05	0.87	11.09	13.18	11.76	13.18	13.18
140 Z 15	3.26	10.97	2.44	2.03	1.63	1.35	1.22	1.02	11.84	15.36	14.06	15.36	15.36
140 Z 16	3.48	12.53	2.78	2.32	1.86	1.55	1.39	1.16	12.59	17.54	16.37	17.54	17.54
140 Z 18	3.90	14.09	3.13	2.61	2.09	1.74	1.57	1.30	14.09	21.83	20.94	21.83	21.83
140 Z 20	4.32	15.57	3.46	2.88	2.31	1.92	1.73	1.44	15.57	26.07	25.49	26.07	26.07
170 Z 14	3.38	12.23	2.72	2.26	1.81	1.51	1.36	1.13	17.47	17.12	13.72	17.12	17.12
170 Z 15	3.62	14.26	3.17	2.64	2.11	1.76	1.58	1.32	18.66	19.97	16.40	19.97	19.97
170 Z 16	3.86	16.29	3.62	3.02	2.41	2.01	1.81	1.51	19.86	22.81	19.09	22.81	22.81
170 Z 18	4.33	20.29	4.51	3.76	3.01	2.51	2.25	1.88	22.23	28.41	24.41	28.41	28.41
170 Z 20	4.79	24.25	5.39	4.49	3.59	2.99	2.69	2.25	24.59	33.96	29.70	33.96	33.96
170 Z 25	5.94	30.26	6.72	5.60	4.48	3.74	3.36	2.80	30.26	47.35	42.62	47.35	47.35
200 Z 14	3.92	13.02	2.89	2.41	1.93	1.61	1.45	1.21	28.18	18.23	14.94	18.23	18.23
200 Z 15	4.20	15.86	3.52	2.94	2.35	1.96	1.76	1.47	30.12	22.20	19.10	22.20	22.20
200 Z 16	4.48	18.68	4.15	3.46	2.77	2.31	2.08	1.73	32.07	26.15	23.25	26.15	26.15

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 Z 14	3.06	8.47	1.69	1.41	1.13	0.94	0.85	0.71	8.98	11.86	9.82	11.86	11.86
140 Z 15	3.26	9.59	1.92	1.60	1.28	1.07	0.96	0.80	9.59	13.83	11.74	13.83	13.83
140 Z 16	3.48	10.20	2.04	1.70	1.36	1.13	1.02	0.85	10.20	15.78	13.67	15.78	15.78
140 Z 18	3.90	11.41	2.28	1.90	1.52	1.27	1.14	0.95	11.41	19.64	17.50	19.64	19.64
140 Z 20	4.32	12.61	2.52	2.10	1.68	1.40	1.26	1.05	12.61	23.46	21.32	23.46	23.46
170 Z 14	3.38	11.01	2.20	1.83	1.47	1.22	1.10	0.92	14.15	15.41	11.41	15.41	15.41
170 Z 15	3.62	12.84	2.57	2.14	1.71	1.43	1.28	1.07	15.11	17.97	13.65	17.97	17.97
170 Z 16	3.86	14.66	2.93	2.44	1.95	1.63	1.47	1.22	16.08	20.53	15.89	20.53	20.53
170 Z 18	4.33	18.01	3.60	3.00	2.40	2.00	1.80	1.50	18.01	25.57	20.33	25.57	25.57
170 Z 20	4.79	19.92	3.98	3.32	2.66	2.21	1.99	1.66	19.92	30.56	24.75	30.56	30.56
170 Z 25	5.94	24.51	4.90	4.09	3.27	2.72	2.45	2.04	24.51	42.61	35.57	42.61	42.61
200 Z 14	3.92	11.72	2.34	1.95	1.56	1.30	1.17	0.98	22.82	16.41	12.28	16.41	16.41
200 Z 15	4.20	14.27	2.85	2.38	1.90	1.59	1.43	1.19	24.40	19.98	15.70	19.98	19.98
200 Z 16	4.48	16.81	3.36	2.80	2.24	1.87	1.68	1.40	25.98	23.54	19.11	23.54	23.54
200 Z 18	5.03	21.82	4.36	3.64	2.91	2.42	2.18	1.82	29.11	30.55	25.87	30.55	30.55
200 Z 20	5.58	26.79	5.36	4.46	3.57	2.98	2.68	2.23	32.24	37.50	32.58	37.50	37.50
200 Z 25	6.92	38.83	7.77	6.47	5.18	4.31	3.88	3.24	39.78	54.36	48.97	54.36	54.36
240 Z 15	4.81	16.80	3.36	2.80	2.24	1.87	1.68	1.40	39.25	23.52	16.88	23.52	23.52
240 Z 16	5.13	20.22	4.04	3.37	2.70	2.25	2.02	1.68	41.81	28.30	21.26	28.30	28.30
240 Z 18	5.77	26.96	5.39	4.49	3.60	2.00	2.70	2.25	46.90	37.75	29.92	37.75	37.75
Span = 5.5m													
140 Z 14	3.06	7.42	1.35	1.12	0.90	0.75	0.67	0.56	7.42	10.78	8.40	10.00	10.78
140 Z 15	3.26	7.92	1.44	1.20	0.96	0.80	0.72	0.60	7.92	12.57	10.05	11.95	12.57
140 Z 16	3.48	8.43	1.53	1.28	1.02	0.85	0.77	0.64	8.43	14.35	11.71	13.90	14.35
140 Z 18	3.90	9.43	1.71	1.43	1.14	0.95	0.86	0.71	9.43	17.86	14.99	17.76	17.86
140 Z 20	4.32	10.42	1.89	1.58	1.26	1.05	0.95	0.79	10.42	21.33	18.28	21.33	21.33
170 Z 14	3.38	10.01	1.82	1.52	1.21	1.01	0.91	0.76	11.69	14.01	9.73	12.51	14.01
170 Z 15	3.62	11.67	2.12	1.77	1.41	1.18	1.06	0.88	12.49	16.34	11.65	14.95	16.34
170 Z 16	3.86	13.29	2.42	2.01	1.61	1.34	1.21	1.01	13.29	18.66	13.56	17.38	18.66
170 Z 18	4.33	14.88	2.71	2.25	1.80	1.50	1.35	1.13	14.88	23.24	17.36	22.20	23.24
170 Z 20	4.79	16.46	2.99	2.49	1.00	1.66	1.50	1.25	16.46	27.78	21.15	26.97	27.78
170 Z 25	5.94	20.26	3.68	3.07	2.46	2.05	1.84	1.53	20.26	38.74	30.44	38.58	38.74
200 Z 14	3.92	10.65	1.94	1.61	1.29	1.08	0.97	0.81	18.86	14.92	10.36	14.05	14.92
200 Z 15	4.20	12.98	2.36	1.97	1.57	1.31	1.18	0.98	20.16	18.17	13.25	17.95	18.17
200 Z 16	4.48	15.28	2.78	2.32	1.85	1.54	1.39	1.16	21.47	21.40	16.14	21.40	21.40
200 Z 18	5.03	19.84	3.61	3.01	2.40	2.00	1.80	1.50	24.06	27.78	21.85	27.78	27.78
200 Z 20	5.58	24.35	4.43	3.69	2.95	2.46	2.21	1.84	26.64	34.09	27.53	34.09	34.09
200 Z 25	6.92	32.87	5.98	4.98	3.98	3.32	2.99	2.49	32.87	49.41	41.44	49.41	49.41
240 Z 15	4.81	15.27	2.78	2.31	1.85	1.54	1.39	1.16	32.43	21.38	14.10	19.91	21.38
240 Z 16	5.13	18.38	3.34	2.78	2.23	1.86	1.67	1.39	34.55	25.73	17.75	25.06	25.73
240 Z 18	5.77	24.51	4.46	3.71	2.97	2.48	2.23	1.86	38.76	34.32	25.00	34.32	34.32

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
140 Z 14	3.06	6.24	1.04	0.87	0.69	0.58	0.52	0.43	6.24	9.89	7.33	8.39	9.89
140 Z 15	3.26	6.66	1.11	0.92	0.74	0.62	0.55	0.46	6.66	11.52	8.78	10.03	11.52
140 Z 16	3.48	7.08	1.18	0.98	0.79	0.66	0.59	0.49	7.08	13.15	10.23	11.67	13.15
140 Z 18	3.90	7.92	1.32	1.10	0.88	0.73	0.66	0.55	7.92	16.37	13.10	14.92	16.37
140 Z 20	4.32	8.76	1.46	1.22	0.97	0.81	0.73	0.61	8.76	19.55	15.97	18.15	19.55
170 Z 14	3.38	9.17	1.53	1.27	1.02	0.85	0.76	0.64	9.82	12.84	8.47	10.51	12.84
170 Z 15	3.62	10.49	1.75	1.46	1.17	0.97	0.87	0.73	10.49	14.98	10.14	12.57	14.98
170 Z 16	3.86	11.17	1.86	1.55	1.24	1.03	0.93	0.78	11.17	17.11	11.81	14.62	17.11
170 Z 18	4.33	12.50	2.08	1.74	1.39	1.16	1.04	0.87	12.50	21.31	15.13	18.68	21.31
170 Z 20	4.79	13.83	2.31	1.92	1.54	1.28	1.15	0.96	13.83	25.47	18.44	22.71	25.47
170 Z 25	5.94	17.02	2.84	2.36	1.89	1.58	1.42	1.18	17.02	35.51	26.57	32.53	35.51
200 Z 14	3.92	9.77	1.63	1.36	1.09	0.90	0.81	0.68	15.85	13.67	8.93	11.71	13.67
200 Z 15	4.20	11.89	1.98	1.65	1.32	1.10	0.99	0.83	16.94	16.65	11.43	14.97	16.65
200 Z 16	4.48	14.01	2.33	1.95	1.56	1.30	1.17	0.97	18.04	19.61	13.92	18.21	19.61
200 Z 18	5.03	18.19	3.03	2.53	2.02	1.68	1.52	1.26	20.22	25.46	18.86	24.61	25.46
200 Z 20	5.58	22.32	3.72	3.10	2.48	2.07	1.86	1.55	22.39	31.25	23.77	30.96	31.25
200 Z 25	6.92	27.62	4.60	3.84	3.07	2.56	2.30	1.92	27.62	45.30	35.81	45.30	45.30
240 Z 15	4.81	13.00	2.33	1.94	1.56	1.30	1.17	0.97	27.25	19.60	12.04	16.47	19.60
240 Z 16	5.13	16.85	2.81	2.34	1.87	1.56	1.40	1.17	29.04	23.59	15.16	20.72	23.59
240 Z 18	5.77	22.47	3.75	3.12	2.50	2.08	1.87	1.56	32.57	31.46	21.36	29.13	31.46
240 Z 20	6.39	28.04	4.67	3.89	3.12	2.60	2.34	1.95	36.09	39.25	27.52	37.45	39.25
Span = 6.5m													
170 Z 14	3.38	8.37	1.29	1.07	0.86	0.72	0.64	0.54	8.37	11.85	7.50	9.01	11.85
170 Z 15	3.62	8.94	1.38	1.15	0.92	0.76	0.69	0.57	8.94	13.82	8.98	10.77	13.82
170 Z 16	3.86	9.52	1.46	1.22	0.98	0.81	0.73	0.61	9.52	15.79	10.46	12.53	15.79
170 Z 18	4.33	10.65	1.64	1.37	1.09	0.91	0.82	0.68	10.65	19.67	13.40	16.02	19.67
170 Z 20	4.79	11.79	1.81	1.51	1.21	1.01	0.91	0.76	11.79	23.51	16.33	19.49	23.51
170 Z 25	5.94	14.50	2.23	1.86	1.49	1.24	1.12	0.93	14.50	32.78	23.56	27.96	32.78
200 Z 14	3.92	9.01	1.39	1.16	0.92	0.77	0.69	0.58	13.50	12.62	7.84	9.95	12.62
200 Z 15	4.20	10.98	1.69	1.41	1.13	0.94	0.84	0.70	14.43	15.37	10.03	12.72	15.37
200 Z 16	4.48	12.93	1.99	1.66	1.33	1.11	0.99	0.83	15.37	18.10	12.22	15.47	18.10
200 Z 18	5.03	16.79	2.58	2.15	1.72	1.43	1.29	1.08	17.23	23.50	16.55	20.93	23.50
200 Z 20	5.58	19.07	2.93	2.45	1.96	1.63	1.47	1.22	19.07	28.85	20.87	26.33	28.85
200 Z 25	6.92	23.54	3.62	3.02	2.41	2.01	1.81	1.51	23.54	41.81	31.48	39.50	41.81
240 Z 15	4.81	12.92	1.99	1.66	1.33	1.10	0.99	0.83	23.22	18.09	10.47	13.86	18.09
240 Z 16	5.13	15.55	2.39	1.99	1.59	1.33	1.20	1.00	24.74	21.77	13.19	17.45	21.77
240 Z 18	5.77	20.74	3.19	2.66	2.13	1.77	1.60	1.33	27.75	29.04	18.59	24.54	29.04
240 Z 20	6.39	25.88	3.98	3.32	2.65	2.21	1.99	1.66	30.75	36.23	23.96	31.57	36.23
240 Z 25	7.94	38.03	5.85	4.88	3.90	3.25	2.93	2.44	38.03	53.75	37.13	48.66	53.75
240 Z 30	9.47	45.08	6.94	5.78	4.62	3.85	3.47	2.89	45.08	70.71	50.06	65.23	70.71

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.0m													
170 Z 14	3.38	7.22	1.03	0.86	0.69	0.57	0.52	0.43	7.22	11.01	6.72	7.84	11.01
170 Z 15	3.62	7.71	1.10	0.92	0.73	0.61	0.55	0.46	7.71	12.84	8.05	9.38	12.84
170 Z 16	3.86	8.21	1.17	0.98	0.78	0.65	0.59	0.49	8.21	14.66	9.38	10.92	14.66
170 Z 18	4.33	9.19	1.31	1.09	0.87	0.73	0.66	0.55	9.19	18.26	12.02	13.97	18.26
170 Z 20	4.79	10.16	1.45	1.21	0.97	0.81	0.73	0.60	10.16	21.83	14.66	17.00	21.83
170 Z 25	5.94	12.51	1.79	1.49	1.19	0.99	0.89	0.74	12.51	30.44	21.16	24.42	30.44
200 Z 14	3.92	8.37	1.20	1.00	0.80	0.66	0.60	0.50	11.64	11.72	6.98	8.59	11.72
200 Z 15	4.20	10.19	1.46	1.21	0.97	0.81	0.73	0.61	12.45	14.27	8.93	10.98	14.27
200 Z 16	4.48	12.01	1.72	1.43	1.14	0.95	0.86	0.71	13.25	16.81	10.87	13.37	16.81
200 Z 18	5.03	14.85	2.12	1.77	1.41	1.18	1.06	0.88	14.85	21.82	14.74	18.08	21.82
200 Z 20	5.58	16.45	2.35	1.96	1.57	1.31	1.17	0.98	16.45	26.79	18.59	22.77	26.79
200 Z 25	6.92	20.30	2.90	2.42	1.93	1.61	1.45	1.21	20.30	38.83	28.07	34.19	38.83
240 Z 15	4.81	11.00	1.71	1.43	1.14	0.95	0.86	0.71	20.02	16.80	9.25	11.87	16.80
240 Z 16	5.13	14.44	2.06	1.72	1.38	1.15	1.03	0.86	21.33	20.22	11.65	14.94	20.22
240 Z 18	5.77	19.26	2.75	2.29	1.83	1.53	1.38	1.15	23.93	26.96	16.43	21.02	26.96
240 Z 20	6.39	24.03	3.43	2.86	2.29	1.91	1.72	1.43	26.51	33.64	21.17	27.04	33.64
240 Z 25	7.94	32.79	4.68	3.90	3.12	2.60	2.34	1.95	32.79	49.91	32.84	41.73	49.91
240 Z 30	9.47	38.87	5.55	4.63	3.70	3.08	2.78	2.31	38.87	65.66	44.32	56.00	65.66
Span = 7.5m													
200 Z 16	4.48	11.21	1.49	1.25	1.00	0.83	0.75	0.62	11.55	15.69	9.79	11.71	15.69
200 Z 18	5.03	12.94	1.73	1.44	1.15	0.96	0.86	0.72	12.94	20.37	13.28	15.85	20.37
200 Z 20	5.58	14.33	1.91	1.59	1.27	1.06	0.96	0.80	14.33	25.00	16.76	19.96	25.00
200 Z 25	6.92	17.68	2.36	1.96	1.57	1.31	1.18	0.98	17.68	36.24	25.31	30.01	36.24
240 Z 15	4.81	11.20	1.49	1.24	1.00	0.83	0.75	0.62	17.44	15.68	8.27	10.30	15.68
240 Z 16	5.13	13.48	1.80	1.50	1.20	1.00	0.90	0.75	18.58	18.87	10.42	12.97	18.87
240 Z 18	5.77	17.98	2.40	1.00	1.60	1.33	1.20	1.00	20.84	25.17	14.70	18.26	25.17
240 Z 20	6.39	22.43	2.99	2.49	1.99	1.66	1.50	1.25	23.09	31.40	18.95	23.50	31.40
240 Z 25	7.94	28.56	3.81	3.17	2.54	2.12	1.90	1.59	28.56	46.58	29.42	36.30	46.58
240 Z 30	9.47	33.86	4.51	3.76	3.01	2.51	2.26	1.88	33.86	61.28	39.73	48.77	61.28
Span = 8.0m													
200 Z 16	4.48	10.15	1.27	1.06	0.85	0.70	0.63	0.53	10.15	14.71	8.91	10.38	13.60
200 Z 18	5.03	11.37	1.42	1.18	0.95	0.79	0.71	0.59	11.37	19.10	12.08	14.06	18.37
200 Z 20	5.58	12.59	1.57	1.31	1.05	0.87	0.79	0.66	12.59	23.44	15.25	17.72	23.08
200 Z 25	6.92	15.54	1.94	1.62	1.29	1.08	0.97	0.81	15.54	33.97	23.04	26.66	33.97
240 Z 15	4.81	10.50	1.31	1.09	0.87	0.73	0.66	0.55	15.33	14.70	7.48	9.06	12.42
240 Z 16	5.13	12.63	1.58	1.32	1.05	0.88	0.79	0.66	16.33	17.69	9.42	11.41	15.63
240 Z 18	5.77	16.85	2.11	1.76	1.40	1.17	1.05	0.88	18.32	23.59	13.29	16.07	21.95
240 Z 20	6.39	20.30	2.54	2.11	1.69	1.41	1.27	1.06	20.30	29.44	17.14	20.68	28.20
240 Z 25	7.94	25.10	3.14	2.61	2.09	1.74	1.57	1.31	25.10	43.67	26.62	31.98	43.34
240 Z 30	9.47	29.76	3.72	3.10	2.48	2.07	1.86	1.55	29.76	57.45	35.98	13.01	57.45

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 8.5m													
240 Z 18	5.77	15.86	1.87	1.56	1.24	1.04	0.93	0.78	16.23	22.21	12.13	14.29	19.02
240 Z 20	6.39	17.98	2.12	1.76	1.41	1.18	1.06	0.88	17.98	27.71	15.64	18.40	24.43
240 Z 25	7.94	22.24	2.62	2.18	1.74	1.45	1.31	1.09	22.24	41.10	24.31	28.48	37.57
240 Z 30	9.47	26.36	3.10	2.58	2.07	1.72	1.55	1.29	26.36	54.07	32.87	38.34	50.24
300 Z 20	8.02	23.26	2.74	2.28	1.82	1.52	1.37	1.14	35.78	32.56	19.16	24.98	32.56
300 Z 25	10.02	38.82	4.57	3.81	3.04	2.54	2.28	1.90	44.38	54.34	35.00	45.44	54.34
300 Z 30	11.97	52.78	6.21	5.17	4.14	3.45	3.10	2.59	52.78	75.53	50.56	43.01	75.53
Span = 9.0m													
240 Z 18	5.77	14.47	1.61	1.34	1.07	0.89	0.80	0.67	14.47	20.97	11.15	12.84	16.61
240 Z 20	6.39	16.04	1.78	1.48	1.19	0.99	0.89	0.74	16.04	26.17	14.38	16.53	21.35
240 Z 25	7.94	19.83	2.20	1.84	1.47	1.22	1.10	0.92	19.83	38.82	22.37	25.61	32.85
240 Z 30	9.47	23.51	2.61	2.18	1.74	1.45	1.31	1.09	23.51	51.07	30.25	34.50	43.97
300 Z 20	8.02	21.97	2.44	2.03	1.63	1.36	1.22	1.02	31.91	30.75	17.44	22.18	30.75
300 Z 25	10.02	36.66	4.07	3.39	2.72	2.26	2.04	1.70	39.59	51.32	31.86	40.37	51.32
300 Z 30	11.97	47.08	5.23	4.36	3.49	2.91	2.62	2.18	47.08	71.34	46.05	58.12	71.34
Span = 9.5m													
240 Z 20	6.39	14.39	1.52	1.26	1.01	0.84	0.76	0.63	14.39	24.79	13.31	14.98	18.80
240 Z 25	7.94	17.80	1.87	1.56	1.25	1.04	0.94	0.78	17.80	36.77	20.71	23.22	28.96
240 Z 30	9.47	21.10	2.22	1.85	1.48	1.23	1.11	0.93	21.10	48.38	28.02	31.31	38.80
300 Z 20	8.02	20.81	2.19	1.83	1.46	1.22	1.10	0.91	28.64	29.13	15.99	19.87	27.84
300 Z 25	10.02	34.73	3.66	3.05	2.44	2.03	1.83	1.52	35.53	48.62	29.22	36.19	48.62
300 Z 30	11.97	42.25	4.45	3.71	2.96	2.47	2.22	1.85	42.25	67.58	42.25	52.12	67.58
Span = 10.0m													
240 Z 20	6.39	12.99	1.30	1.08	0.87	0.72	0.65	0.54	12.99	23.55	12.39	13.67	16.69
240 Z 25	7.94	16.07	1.61	1.34	1.07	0.89	0.80	0.67	16.07	34.93	19.28	21.21	25.73
240 Z 30	9.47	19.05	1.90	1.59	1.27	1.06	0.95	0.79	19.05	45.96	26.10	28.62	34.50
300 Z 20	8.02	19.77	1.98	1.65	1.32	1.10	0.99	0.82	25.85	27.68	14.75	17.94	24.67
300 Z 25	10.02	32.07	3.21	2.67	2.14	1.78	1.60	1.34	32.07	46.19	26.98	32.69	44.76
300 Z 30	11.97	38.13	3.81	3.18	2.54	2.12	1.91	1.59	38.13	64.20	39.02	47.11	64.20
Span = 10.5m													
300 Z 20	8.02	18.83	1.79	1.49	1.20	1.00	0.90	0.75	23.45	26.36	13.69	16.31	21.98
300 Z 25	10.02	29.08	2.77	2.31	1.85	1.54	1.38	1.15	29.08	43.99	25.05	29.74	39.88
300 Z 30	11.97	34.59	3.29	2.74	2.20	1.83	1.65	1.37	34.59	61.15	36.24	42.88	57.23
Span = 11.0m													
300 Z 20	8.02	17.97	1.63	1.36	1.09	0.91	0.82	0.68	21.36	25.16	12.77	14.93	19.68
300 Z 25	10.02	26.50	2.41	2.01	1.61	1.34	1.20	1.00	26.50	41.99	23.37	27.22	35.73
300 Z 30	11.97	31.51	2.86	2.39	1.91	1.59	1.43	1.19	31.51	58.37	33.83	39.27	51.29

ZED RAILS SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 11.5m													
300 Z 20	8.02	17.19	1.49	1.25	1.00	0.83	0.75	0.62	19.55	24.07	11.97	13.74	17.71
300 Z 25	10.02	24.25	2.11	1.76	1.41	1.17	1.05	0.88	24.25	40.17	21.91	25.06	32.17
300 Z 30	11.97	28.83	2.51	2.09	1.67	1.39	1.25	1.04	28.83	55.83	31.72	36.18	46.20
Span = 12.0m													
300 Z 25	10.02	22.27	1.86	1.55	1.24	1.03	0.93	0.77	22.27	38.49	20.62	23.20	29.11
300 Z 30	11.97	26.48	2.21	1.84	1.47	1.23	1.10	0.92	26.48	53.50	29.86	33.50	41.84

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	12.80	4.27	3.55	2.84	2.37	2.13	1.78	32.71	17.91	17.91	17.91	17.91
140 Z 15	3.26	15.03	5.01	4.18	3.34	2.78	2.51	2.09	34.92	21.04	21.04	21.04	21.04
140 Z 16	3.48	17.26	5.75	4.79	3.84	3.20	2.88	2.40	37.15	24.17	24.17	24.17	24.17
140 Z 18	3.90	21.66	7.22	6.02	4.81	4.01	3.61	3.01	41.55	30.32	30.32	30.32	30.32
140 Z 20	4.32	26.01	8.67	7.23	5.78	4.82	4.34	3.61	45.92	36.42	36.42	36.42	36.42
Span = 3.5m													
140 Z 14	3.06	11.30	3.23	2.69	2.15	1.79	1.61	1.35	24.03	15.82	15.82	15.82	15.82
140 Z 15	3.26	13.24	3.78	3.15	2.52	2.10	1.89	1.58	25.65	18.54	18.54	18.54	18.54
140 Z 16	3.48	15.18	4.34	3.61	2.89	2.41	2.17	1.81	27.29	21.25	21.25	21.25	21.25
140 Z 18	3.90	18.00	5.43	4.52	3.62	3.02	2.71	2.26	30.52	26.60	26.60	26.60	26.60
140 Z 20	4.32	22.78	6.51	5.42	4.34	3.62	3.25	2.71	33.74	31.89	31.89	31.89	31.89
Span = 4.0m													
140 Z 14	3.06	10.11	2.53	2.11	1.68	1.40	1.26	1.05	18.40	14.15	14.15	14.15	14.15
140 Z 15	3.26	11.82	2.96	2.46	1.97	1.64	1.48	1.23	19.64	16.55	16.55	16.27	16.55
140 Z 16	3.48	13.53	3.38	2.82	2.26	1.88	1.69	1.41	20.90	18.94	18.94	18.90	18.94
140 Z 18	3.90	16.91	4.23	3.52	2.82	2.35	2.11	1.76	23.37	23.67	23.67	23.67	23.67
140 Z 20	4.32	20.24	5.06	4.22	3.37	2.81	2.53	2.11	25.83	28.34	28.34	28.34	28.34
170 Z 14	3.38	12.70	3.18	2.65	2.12	1.76	1.59	1.32	28.98	17.79	17.79	17.79	17.79
170 Z 15	3.62	14.91	3.73	3.11	2.48	2.07	1.86	1.55	30.95	20.87	20.87	20.87	20.87
170 Z 16	3.86	17.11	4.28	3.56	2.85	2.38	2.14	1.78	32.95	23.95	23.95	23.95	23.95
170 Z 18	4.33	21.45	5.36	4.47	3.58	2.98	2.68	2.23	36.88	30.03	30.03	29.69	30.03
170 Z 20	4.79	25.76	6.44	5.37	4.29	3.58	3.22	2.68	40.80	36.06	36.06	35.80	36.06
170 Z 25	5.94	36.15	9.04	7.53	6.02	5.02	4.52	3.77	50.21	50.60	50.60	50.60	50.60
200 Z 14	3.92	12.67	3.17	2.64	2.11	1.76	1.58	1.32	46.75	17.74	17.74	17.74	17.74
200 Z 15	4.20	15.69	3.92	3.27	2.62	2.18	1.96	1.63	49.97	21.97	21.97	21.97	21.97

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 4.5m													
140 Z 14	3.06	9.13	2.03	1.69	1.35	1.13	1.01	0.85	14.54	12.78	11.76	11.12	12.78
140 Z 15	3.26	10.67	2.37	1.98	1.58	1.32	1.19	0.99	15.52	14.93	14.06	11.95	14.93
140 Z 16	3.48	12.20	2.71	2.26	1.81	1.51	1.36	1.13	16.51	17.08	16.37	13.89	17.08
140 Z 18	3.90	15.22	3.38	2.82	2.25	1.88	1.69	1.41	18.46	21.31	20.94	17.70	21.31
140 Z 20	4.32	18.21	4.05	3.37	2.70	2.25	2.02	1.69	20.41	25.49	25.49	21.48	25.49
170 Z 14	3.38	11.53	2.56	2.14	1.71	1.42	1.28	1.07	22.90	16.14	13.72	16.14	16.14
170 Z 15	3.62	13.51	3.00	2.50	2.00	1.67	1.50	1.25	24.46	18.91	16.40	18.91	18.91
170 Z 16	3.86	15.48	3.44	2.87	2.29	1.91	1.72	1.43	26.03	21.67	19.09	20.74	21.67
170 Z 18	4.33	19.38	4.31	3.59	2.87	2.39	2.15	1.79	29.14	27.13	24.41	21.70	27.13
170 Z 20	4.79	23.24	5.16	4.30	3.44	2.87	2.58	2.15	32.24	32.53	29.70	26.16	32.53
170 Z 25	5.94	32.56	7.23	6.03	4.82	4.02	3.62	3.01	39.67	45.58	42.62	37.22	45.58
200 Z 14	3.92	11.64	2.59	2.16	1.72	1.44	1.29	1.08	36.94	16.30	14.94	16.30	16.30
200 Z 15	4.20	14.36	3.19	2.66	2.13	1.77	1.60	1.33	39.48	20.10	19.10	20.10	20.10
200 Z 16	4.48	17.06	3.79	3.16	2.53	2.11	1.90	1.58	42.04	23.89	23.25	23.89	23.89
Span = 5.0m													
140 Z 14	3.06	8.32	1.66	1.39	1.11	0.92	0.83	0.69	11.77	11.65	9.82	11.65	11.65
140 Z 15	3.26	9.72	1.94	1.62	1.30	1.08	0.97	0.81	12.57	13.60	11.74	13.60	13.60
140 Z 16	3.48	11.10	2.22	1.85	1.48	1.23	1.11	0.93	13.37	15.54	13.67	15.54	15.54
140 Z 18	3.90	13.84	2.77	2.31	1.85	1.54	1.38	1.15	14.96	19.37	17.50	19.37	19.37
140 Z 20	4.32	16.53	3.31	2.76	2.20	1.84	1.65	1.38	16.53	23.16	21.32	23.16	23.16
170 Z 14	3.38	10.55	2.11	1.76	1.41	1.17	1.05	0.88	18.55	14.77	11.41	14.77	14.77
170 Z 15	3.62	12.34	2.47	2.06	1.65	1.37	1.23	1.03	19.81	17.28	13.65	17.28	17.28
170 Z 16	3.86	14.13	2.83	2.35	1.88	1.57	1.41	1.18	21.09	19.78	15.89	19.78	19.78
170 Z 18	4.33	17.66	3.53	2.94	2.35	1.96	1.77	1.47	23.60	24.73	20.33	24.73	24.73
170 Z 20	4.79	21.16	4.23	3.53	2.82	2.35	2.12	1.76	26.11	29.62	24.75	29.62	29.62
170 Z 25	5.94	29.61	5.92	4.93	3.95	3.29	2.96	2.47	32.13	41.45	35.57	41.45	41.45
200 Z 14	3.92	10.75	2.15	1.79	1.43	1.19	1.07	0.90	29.92	15.04	12.28	15.04	15.04
200 Z 15	4.20	13.21	2.64	2.20	1.76	1.47	1.32	1.10	31.98	18.50	15.70	18.50	18.50
200 Z 16	4.48	15.67	3.13	2.61	2.09	1.74	1.57	1.31	34.06	21.94	19.11	21.94	21.94
200 Z 18	5.03	20.53	4.11	3.42	2.74	2.28	2.05	1.71	38.16	28.74	25.87	28.74	28.74
200 Z 20	5.58	25.34	5.07	4.22	3.38	2.82	2.53	2.11	42.26	35.47	32.58	35.47	35.47
200 Z 25	6.92	37.02	7.40	6.17	4.94	4.11	3.70	3.08	52.15	51.82	48.97	51.82	51.82
240 Z 15	4.81	14.71	2.94	2.45	1.96	1.63	1.47	1.23	51.45	20.59	16.88	20.59	20.59
240 Z 16	5.13	17.96	3.59	2.99	2.39	1.00	1.80	1.50	54.81	25.14	21.26	25.14	25.14
240 Z 18	5.77	24.39	4.88	4.06	3.25	2.71	2.44	2.03	61.48	34.14	29.92	34.14	34.14

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.5m													
140 Z 14	3.06	7.65	1.39	1.16	0.93	0.77	0.70	0.58	9.73	10.71	8.40	10.00	12.48
140 Z 15	3.26	8.92	1.62	1.35	1.08	0.90	0.81	0.68	10.39	12.48	10.05	11.95	14.26
140 Z 16	3.48	10.18	1.85	1.54	1.23	1.03	0.93	0.77	11.05	14.26	11.71	13.90	17.76
140 Z 18	3.90	12.36	2.25	1.87	1.50	1.25	1.12	0.94	12.36	17.76	14.99	17.76	21.21
140 Z 20	4.32	13.66	2.48	2.07	1.66	1.38	1.24	1.04	13.66	21.21	18.28	21.21	13.60
170 Z 14	3.38	9.71	1.77	1.47	1.18	0.98	0.88	0.74	15.33	13.60	9.73	12.51	15.90
170 Z 15	3.62	11.35	2.06	1.72	1.38	1.15	1.03	0.86	16.37	15.90	11.65	14.95	18.19
170 Z 16	3.86	12.99	2.36	1.97	1.57	1.31	1.18	0.98	17.43	18.19	13.56	17.38	22.71
170 Z 18	4.33	16.22	2.95	2.46	1.97	1.64	1.47	1.23	19.51	22.71	17.36	22.20	27.19
170 Z 20	4.79	19.42	3.53	2.94	2.35	1.96	1.77	1.47	21.58	27.19	21.15	26.97	37.00
170 Z 25	5.94	26.56	4.83	4.02	3.22	2.68	2.41	2.01	26.56	37.00	30.44	38.00	13.96
200 Z 14	3.92	9.97	1.81	1.51	1.21	1.01	0.91	0.76	24.73	13.96	10.36	13.96	17.12
200 Z 15	4.20	12.23	2.22	1.85	1.48	1.24	1.11	0.93	26.43	17.12	13.25	17.12	20.27
200 Z 16	4.48	14.48	2.63	2.19	1.76	1.46	1.32	1.10	28.15	20.27	16.14	20.27	26.50
200 Z 18	5.03	18.93	3.44	2.87	2.29	1.91	1.72	1.43	31.54	26.50	21.85	26.50	32.66
200 Z 20	5.58	23.33	4.24	3.53	2.83	2.36	2.12	1.77	34.92	32.66	27.53	32.66	47.63
200 Z 25	6.92	34.02	6.19	5.15	4.12	3.44	3.09	2.58	43.10	47.63	41.44	47.63	19.21
240 Z 15	4.81	13.72	2.49	2.08	1.66	1.39	1.25	1.04	42.52	19.21	14.10	19.21	23.38
240 Z 16	5.13	16.70	3.04	2.53	2.02	1.69	1.52	1.27	45.30	23.38	17.75	23.38	31.64
240 Z 18	5.77	22.60	4.11	3.42	2.74	2.28	2.05	1.71	50.81	31.64	25.00	31.64	31.64
Span = 6.0m													
140 Z 14	3.06	7.07	1.18	0.98	0.79	0.65	0.59	0.49	8.18	9.90	7.33	8.39	9.90
140 Z 15	3.26	8.24	1.37	1.14	0.92	0.76	0.69	0.57	8.73	11.53	8.78	10.03	11.53
140 Z 16	3.48	9.29	1.55	1.29	1.03	0.86	0.77	0.64	9.29	13.17	10.23	11.67	13.17
140 Z 18	3.90	10.39	1.73	1.44	1.15	0.96	0.87	0.72	10.39	16.39	13.10	14.92	16.39
140 Z 20	4.32	11.48	1.91	1.59	1.28	1.06	0.96	0.80	11.48	19.57	15.97	18.15	19.57
170 Z 14	3.38	8.00	1.50	1.25	1.00	0.83	0.75	0.62	12.88	12.60	8.47	10.51	12.60
170 Z 15	3.62	10.51	1.75	1.46	1.17	0.97	0.88	0.73	13.76	14.71	10.14	12.57	14.71
170 Z 16	3.86	12.02	2.00	1.67	1.34	1.11	1.00	0.83	14.64	16.82	11.81	14.62	16.82
170 Z 18	4.33	14.99	2.50	2.08	1.67	1.39	1.25	1.04	16.39	20.99	15.13	18.68	20.99
170 Z 20	4.79	17.94	2.99	2.49	1.99	1.66	1.49	1.25	18.13	25.11	18.44	22.71	25.11
170 Z 25	5.94	22.31	3.72	3.10	2.48	2.07	1.86	1.55	22.31	35.07	26.57	32.53	35.07
200 Z 14	3.92	9.29	1.55	1.29	1.03	0.86	0.77	0.65	20.78	13.00	8.93	11.71	13.00
200 Z 15	4.20	11.37	1.90	1.58	1.26	1.05	0.95	0.79	22.21	15.92	11.43	14.97	15.92
200 Z 16	4.48	13.45	2.24	1.87	1.49	1.25	1.12	0.93	23.65	18.83	13.92	18.21	18.83
200 Z 18	5.03	17.55	2.93	2.44	1.95	1.63	1.46	1.22	26.50	24.57	18.86	24.57	24.57
200 Z 20	5.58	21.61	3.60	3.00	2.40	2.00	1.80	1.50	29.35	30.25	23.77	30.25	30.25
200 Z 25	6.92	31.46	5.24	4.37	3.50	2.91	2.62	2.19	36.21	44.05	35.81	44.05	44.05
240 Z 15	4.81	12.84	2.14	1.78	1.43	1.19	1.07	0.89	35.73	17.98	12.04	16.47	17.98
240 Z 16	5.13	15.59	2.60	2.17	1.73	1.44	1.30	1.08	38.06	21.83	15.16	20.72	21.83
240 Z 18	5.77	21.04	3.51	2.92	2.34	1.95	1.75	1.46	42.69	29.45	21.36	29.13	29.45
240 Z 20	6.39	26.43	4.41	3.67	2.94	2.45	2.20	1.84	47.30	37.00	27.52	37.00	37.00

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.5m													
170 Z 14	3.38	8.38	1.29	1.07	0.86	0.72	0.64	0.54	10.97	11.73	7.50	9.01	11.73
170 Z 15	3.62	9.78	1.50	1.25	1.00	0.84	0.75	0.63	11.72	13.69	8.98	10.77	13.69
170 Z 16	3.86	11.18	1.72	1.43	1.15	0.96	0.86	0.72	12.48	15.65	10.46	12.53	15.65
170 Z 18	4.33	13.94	2.14	1.79	1.43	1.19	1.07	0.89	13.97	19.51	13.40	16.02	19.51
170 Z 20	4.79	15.45	2.38	1.98	1.58	1.32	1.19	0.99	15.45	23.33	16.33	19.49	23.33
170 Z 25	5.94	19.01	2.93	2.44	1.95	1.63	1.46	1.22	19.01	32.56	23.56	27.96	32.56
200 Z 14	3.92	8.69	1.34	1.11	0.89	0.74	0.67	0.56	17.70	12.17	7.84	9.95	12.17
200 Z 15	4.20	10.63	1.63	1.36	1.09	0.91	0.82	0.68	18.92	14.88	10.03	12.72	14.88
200 Z 16	4.48	12.55	1.93	1.61	1.29	1.07	0.97	0.80	20.15	17.57	12.22	15.47	17.57
200 Z 18	5.03	16.36	2.52	2.10	1.68	1.40	1.26	1.05	22.58	22.90	16.55	20.93	22.90
200 Z 20	5.58	20.12	3.10	2.58	2.06	1.72	1.55	1.29	25.00	28.17	20.87	26.33	28.17
200 Z 25	6.92	29.26	4.50	3.75	3.00	2.50	2.25	1.88	30.86	40.97	31.48	39.50	40.97
240 Z 15	4.81	12.06	1.85	1.55	1.24	1.03	0.93	0.77	30.44	16.88	10.47	13.86	16.88
240 Z 16	5.13	14.61	2.25	1.87	1.50	1.25	1.12	0.94	32.43	20.46	13.19	17.45	20.46
240 Z 18	5.77	19.67	3.03	2.52	2.02	1.68	1.51	1.26	36.38	27.54	18.59	24.54	27.54
240 Z 20	6.39	24.68	3.80	3.16	2.53	2.11	1.90	1.58	40.31	34.55	23.96	31.57	34.55
240 Z 25	7.94	36.88	5.67	4.73	3.78	3.15	2.84	2.36	49.85	51.63	37.13	48.66	51.63
240 Z 30	9.47	48.71	7.49	6.24	4.00	4.16	3.75	3.12	59.09	68.19	50.06	65.23	68.19
Span = 7.0m													
170 Z 14	3.38	7.84	1.12	0.93	0.75	0.62	0.56	0.47	9.46	10.98	6.72	7.84	10.98
170 Z 15	3.62	9.15	1.31	1.09	0.87	0.73	0.65	0.54	10.11	12.81	8.05	9.38	12.81
170 Z 16	3.86	10.45	1.49	1.24	1.00	0.83	0.75	0.62	10.76	14.63	9.38	10.92	14.63
170 Z 18	4.33	12.04	1.72	1.43	1.15	0.96	0.86	0.72	12.04	18.23	12.02	13.97	18.23
170 Z 20	4.79	13.32	1.90	1.59	1.27	1.06	0.95	0.79	13.32	21.79	14.66	17.00	21.79
170 Z 25	5.94	16.39	2.34	1.95	1.56	1.30	1.17	0.98	16.39	30.39	21.16	24.42	30.39
200 Z 14	3.92	8.16	1.17	0.97	0.78	0.65	0.58	0.49	15.26	11.43	6.98	8.59	11.43
200 Z 15	4.20	9.97	1.42	1.19	0.95	0.79	0.71	0.59	16.32	13.96	8.93	10.98	13.96
200 Z 16	4.48	11.77	1.68	1.40	1.12	0.93	0.84	0.70	17.38	16.47	10.87	13.37	16.47
200 Z 18	5.03	15.31	2.19	1.82	1.46	1.22	1.09	0.91	19.47	21.44	14.74	18.08	21.44
200 Z 20	5.58	18.82	2.69	2.24	1.79	1.49	1.34	1.12	21.56	26.35	18.59	22.77	26.35
200 Z 25	6.92	26.61	3.80	3.17	2.53	2.11	1.90	1.58	26.61	38.28	28.07	34.19	38.28
240 Z 15	4.81	11.36	1.62	1.35	1.08	0.90	0.81	0.68	26.25	15.90	9.25	11.87	15.90
240 Z 16	5.13	13.74	1.96	1.64	1.31	1.09	0.98	0.82	27.96	19.24	11.65	14.94	19.24
240 Z 18	5.77	18.46	2.64	2.20	1.76	1.47	1.32	1.10	31.36	25.85	16.43	21.02	25.85
240 Z 20	6.39	23.14	3.31	2.75	2.20	1.84	1.65	1.38	34.75	32.39	21.17	27.04	32.39
240 Z 25	7.94	34.53	4.93	4.11	3.29	2.74	2.47	2.06	42.98	48.34	32.84	41.73	48.34
240 Z 30	9.47	45.56	6.51	5.42	4.34	3.62	3.25	2.71	50.95	63.79	44.32	56.00	63.79

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
200 Z 16	4.48	11.07	1.48	1.23	0.98	0.82	0.74	0.61	15.14	15.50	9.79	11.71	15.50
200 Z 18	5.03	14.39	1.92	1.60	1.28	1.07	0.96	0.80	16.96	20.15	13.28	15.85	20.15
200 Z 20	5.58	17.68	2.36	1.96	1.57	1.31	1.18	0.98	18.78	24.75	16.76	19.96	24.75
200 Z 25	6.92	23.18	3.09	2.58	2.06	1.72	1.55	1.29	23.18	35.93	25.31	30.01	35.93
240 Z 15	4.81	10.73	1.43	1.19	0.95	0.79	0.72	0.60	22.87	15.02	8.27	10.30	15.02
240 Z 16	5.13	12.97	1.73	1.44	1.15	0.96	0.86	0.72	24.36	18.16	10.42	12.97	18.16
240 Z 18	5.77	17.39	2.32	1.93	1.55	1.29	1.16	0.97	27.32	24.35	14.70	18.26	24.35
240 Z 20	6.39	21.78	2.90	2.42	1.94	1.61	1.45	1.21	30.27	30.49	18.95	23.50	30.49
240 Z 25	7.94	32.45	4.33	3.61	2.88	2.40	2.16	1.80	37.44	45.43	29.42	36.30	45.43
240 Z 30	9.47	42.79	5.71	4.75	3.80	3.17	2.85	2.38	44.39	59.91	39.73	48.77	59.91
Span = 8.0m													
200 Z 16	4.48	10.45	1.31	1.09	0.87	0.73	0.65	0.54	13.30	14.63	8.91	10.38	13.60
200 Z 18	5.03	13.57	1.70	1.41	1.13	0.94	0.85	0.71	14.91	19.00	12.08	14.06	18.37
200 Z 20	5.58	16.51	2.06	1.72	1.38	1.15	1.03	0.86	16.51	23.33	15.25	17.72	23.08
200 Z 25	6.92	20.37	2.55	2.12	1.70	1.41	1.27	1.06	20.37	33.84	23.04	26.66	33.84
240 Z 15	4.81	10.16	1.27	1.06	0.85	0.71	0.64	0.53	20.10	14.23	7.48	9.06	12.42
240 Z 16	5.13	12.27	1.53	1.28	1.02	0.85	0.77	0.64	21.41	17.18	9.42	11.41	15.63
240 Z 18	5.77	16.44	2.05	1.71	1.37	1.14	1.03	0.86	24.01	23.01	13.29	16.07	21.95
240 Z 20	6.39	20.56	2.57	2.14	1.71	1.43	1.29	1.07	26.61	28.79	17.14	20.68	28.20
240 Z 25	7.94	30.61	3.83	3.19	2.55	2.13	1.91	1.59	32.91	42.85	26.62	31.98	42.85
240 Z 30	9.47	39.01	4.88	4.06	3.25	2.71	2.44	2.03	39.01	56.48	35.98	43.01	56.48
Span = 8.5m													
240 Z 18	5.77	15.58	1.83	1.53	1.22	1.02	0.92	0.76	21.27	21.81	12.13	14.29	19.02
240 Z 20	6.39	19.47	2.29	1.91	1.53	1.27	1.15	0.95	23.57	27.26	15.64	18.40	24.43
240 Z 25	7.94	28.96	3.41	2.84	2.27	1.89	1.70	1.42	29.15	40.54	24.31	28.48	37.57
240 Z 30	9.47	34.56	4.07	3.39	2.71	2.26	2.03	1.69	34.56	53.41	32.87	38.34	50.24
300 Z 20	8.02	22.02	2.59	2.16	1.73	1.44	1.30	1.08	46.90	30.82	19.16	24.98	30.82
300 Z 25	10.02	37.22	4.38	3.65	2.92	2.43	2.19	1.82	58.18	52.11	35.00	45.44	52.11
300 Z 30	11.97	52.03	6.12	5.10	4.08	3.40	3.06	2.55	69.19	72.85	50.56	65.37	72.85
Span = 9.0m													
240 Z 18	5.77	14.81	1.65	1.37	1.10	0.91	0.82	0.69	18.97	20.73	11.15	12.84	16.61
240 Z 20	6.39	18.49	2.05	1.71	1.37	1.14	1.03	0.86	21.02	25.89	14.38	16.53	21.35
240 Z 25	7.94	26.00	2.89	2.41	1.93	1.60	1.44	1.20	26.00	38.47	22.37	25.61	32.85
240 Z 30	9.47	30.82	3.42	2.85	2.28	1.90	1.71	1.43	30.82	50.66	30.25	34.50	43.97
300 Z 20	8.02	20.99	2.33	1.94	1.55	1.30	1.17	0.97	41.84	29.39	17.44	22.18	29.39
300 Z 25	10.02	35.41	3.93	3.28	2.62	2.19	1.97	1.64	51.90	49.57	31.86	40.37	49.57
300 Z 30	11.97	49.45	5.49	4.58	3.66	3.05	2.75	2.29	61.71	69.23	46.05	58.12	69.23

ZED RAILS SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 9.5m													
240 Z 20	6.39	17.61	1.85	1.54	1.24	1.03	0.93	0.77	18.87	24.65	13.31	14.98	18.80
240 Z 25	7.94	23.34	2.46	2.05	1.64	1.36	1.23	1.02	23.34	36.60	20.71	23.22	28.96
240 Z 30	9.47	27.66	2.91	2.43	1.94	1.62	1.46	1.21	27.66	48.17	28.02	31.31	38.80
300 Z 20	8.02	20.06	2.11	1.76	1.41	1.17	1.06	0.88	37.55	28.08	15.99	19.87	27.84
300 Z 25	10.02	33.76	3.55	2.96	2.37	1.97	1.78	1.48	46.58	47.27	29.22	36.19	47.27
300 Z 30	11.97	47.11	4.96	4.13	3.31	2.75	2.48	2.07	55.39	65.95	42.25	52.12	65.95
Span = 10.0m													
240 Z 20	6.39	16.80	1.68	1.40	1.12	0.93	0.84	0.70	17.03	23.52	12.39	13.67	16.69
240 Z 25	7.94	21.06	2.11	1.76	1.40	1.17	1.05	0.88	21.06	34.90	19.28	21.21	25.73
240 Z 30	9.47	24.97	2.50	2.08	1.66	1.39	1.25	1.04	24.97	45.92	26.10	28.62	34.50
300 Z 20	8.02	19.20	1.92	1.60	1.28	1.07	0.96	0.80	33.89	26.87	14.75	17.94	24.67
300 Z 25	10.02	32.26	3.23	2.69	2.15	1.79	1.61	1.34	42.04	45.16	26.98	32.69	44.76
300 Z 30	11.97	44.97	4.50	3.75	2.00	2.50	2.25	1.87	49.99	62.96	39.02	47.11	62.96
Span = 10.5m													
300 Z 20	8.02	18.40	1.75	1.46	1.17	0.97	0.88	0.73	30.74	25.77	13.69	16.31	21.98
300 Z 25	10.02	30.88	2.94	2.45	1.96	1.63	1.47	1.23	38.13	43.23	25.05	29.74	39.88
300 Z 30	11.97	43.02	4.10	3.41	2.73	2.28	2.05	1.71	45.34	60.23	33.83	39.27	51.29
Span = 11.0m													
300 Z 20	8.02	17.68	1.61	1.34	1.07	0.89	0.80	0.67	28.01	24.75	12.77	14.93	19.68
300 Z 25	10.02	29.61	2.69	2.24	1.79	1.50	1.35	1.12	34.74	41.46	23.37	27.22	35.73
300 Z 30	11.97	41.23	3.75	3.12	2.50	2.08	1.87	1.56	41.31	57.72	36.24	42.88	57.23
Span = 11.5m													
300 Z 20	8.02	16.00	1.48	1.23	0.99	0.82	0.74	0.62	25.62	23.80	11.97	13.74	17.71
300 Z 25	10.02	28.44	2.47	2.06	1.65	1.37	1.24	1.03	31.78	39.82	21.91	25.06	32.17
300 Z 30	11.97	37.80	3.29	2.74	2.19	1.83	1.64	1.37	37.80	55.41	31.72	36.18	46.20
Span = 12.0m													
300 Z 25	10.02	27.36	2.28	1.90	1.52	1.27	1.14	0.95	29.19	38.31	20.62	23.20	29.11
300 Z 30	11.97	34.71	2.89	2.41	1.93	1.61	1.45	1.21	34.71	53.28	29.86	33.50	41.84

ZED RAILS SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 Z 14	3.06	10.68	3.56	2.97	2.37	1.98	1.78	1.48	18.92	14.95	12.18	14.95	14.95
140 Z 15	3.26	12.76	4.25	3.55	2.84	2.36	2.13	1.77	20.20	17.87	14.55	17.87	17.87
140 Z 16	3.48	14.84	4.95	4.12	3.30	2.75	2.47	2.06	21.49	20.78	16.93	20.78	20.78
140 Z 18	3.90	18.94	6.31	5.26	4.21	3.51	3.16	2.63	24.03	26.52	21.62	26.52	26.52
140 Z 20	4.32	23.00	7.67	6.39	5.11	4.26	3.83	3.19	26.56	32.20	26.27	32.20	32.20
Span = 3.5m													
140 Z 14	3.06	9.16	2.62	2.18	1.74	1.45	1.31	1.09	13.90	12.82	9.12	12.82	12.82
140 Z 15	3.26	10.94	3.13	2.60	2.08	1.74	1.56	1.30	14.84	15.32	10.91	15.20	15.20
140 Z 16	3.48	12.72	3.63	3.03	2.42	2.02	1.82	1.51	15.79	17.81	12.69	17.67	17.67
140 Z 18	3.90	16.24	4.64	3.87	3.09	2.58	2.32	1.93	17.66	22.73	16.23	22.53	22.53
140 Z 20	4.32	19.52	5.58	4.65	3.72	3.10	2.79	2.32	19.52	27.60	19.74	27.34	27.34
Span = 4.0m													
140 Z 14	3.06	8.01	2.00	1.67	1.34	1.11	1.00	0.83	10.64	11.21	7.21	11.16	11.21
140 Z 15	3.26	9.57	2.39	1.99	1.60	1.33	1.20	1.00	11.36	13.40	8.63	13.32	13.40
140 Z 16	3.48	11.13	2.78	2.32	1.86	1.55	1.39	1.16	12.09	15.58	10.04	15.48	15.58
140 Z 18	3.90	13.52	3.38	2.82	2.25	1.88	1.69	1.41	13.52	19.89	12.85	19.72	19.89
140 Z 20	4.32	14.94	3.74	3.11	2.49	2.08	1.87	1.56	14.94	24.15	15.65	23.92	24.15
170 Z 14	3.38	10.41	2.60	2.17	1.73	1.45	1.30	1.08	16.76	14.57	8.39	13.94	14.57
170 Z 15	3.62	12.44	3.11	2.59	2.07	1.73	1.56	1.30	17.91	17.42	10.04	16.64	17.42
170 Z 16	3.86	14.48	3.62	3.02	2.41	2.01	1.81	1.51	19.06	20.27	11.68	19.34	20.27
170 Z 18	4.33	18.49	4.62	3.85	3.08	2.57	2.31	1.93	21.33	25.89	14.95	24.65	25.89
170 Z 20	4.79	22.47	5.62	4.68	3.75	3.12	2.81	2.34	23.60	31.46	18.19	29.89	31.46
170 Z 25	5.94	29.04	7.26	6.05	4.84	4.03	3.63	3.03	29.04	44.92	26.13	42.50	44.92
200 Z 14	3.92	10.14	2.53	2.11	1.69	1.41	1.27	1.06	27.04	14.19	9.08	14.19	14.19
200 Z 15	4.20	12.96	3.24	2.70	2.16	1.80	1.62	1.35	28.91	18.15	11.60	18.15	18.15
Span = 4.5m													
140 Z 14	3.06	7.12	1.58	1.32	1.05	0.88	0.79	0.66	8.41	9.97	5.93	8.71	9.97
140 Z 15	3.26	8.51	1.89	1.58	1.26	1.05	0.95	0.79	8.98	11.91	7.10	10.40	11.91
140 Z 16	3.48	9.55	2.12	1.77	1.41	1.18	1.06	0.88	9.55	13.85	8.27	12.09	13.85
140 Z 18	3.90	10.68	2.37	1.98	1.58	1.32	1.19	0.99	10.68	17.68	10.59	15.42	17.68
140 Z 20	4.32	11.81	2.62	2.19	1.75	1.46	1.31	1.09	11.81	21.47	12.90	18.72	21.47
170 Z 14	3.38	9.25	2.06	1.71	1.37	1.14	1.03	0.86	13.25	12.95	6.88	10.86	12.95
170 Z 15	3.62	11.06	2.46	2.05	1.64	1.37	1.23	1.02	14.15	15.48	8.23	12.98	15.48
170 Z 16	3.86	12.87	2.86	2.38	1.91	1.59	1.43	1.19	15.06	18.01	9.58	15.08	18.01
170 Z 18	4.33	16.44	3.65	3.04	2.44	2.03	1.83	1.52	16.86	23.01	12.26	19.23	23.01
170 Z 20	4.79	18.65	4.14	3.45	2.76	2.30	2.07	1.73	18.65	27.96	14.94	23.34	27.96
170 Z 25	5.94	22.95	5.10	4.25	3.40	2.83	2.55	2.12	22.95	39.93	21.50	33.24	39.93
200 Z 14	3.92	9.01	2.00	1.67	1.33	1.11	1.00	0.83	21.37	12.62	7.34	12.28	12.62
200 Z 15	4.20	11.52	2.56	2.13	1.71	1.42	1.28	1.07	22.84	16.13	9.38	15.68	16.13
200 Z 16	4.48	14.03	3.12	2.60	2.08	1.73	1.56	1.30	24.32	19.64	11.42	19.07	19.64

ZED RAILS SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 Z 14	3.06	6.41	1.28	1.07	0.85	0.71	0.64	0.53	6.81	8.97	5.03	6.97	8.97
140 Z 15	3.26	7.27	1.45	1.21	0.97	0.81	0.73	0.61	7.27	10.72	6.02	8.32	10.72
140 Z 16	3.48	7.74	1.55	1.29	1.03	0.86	0.77	0.64	7.74	12.47	7.01	9.68	12.47
140 Z 18	3.90	8.65	1.73	1.44	1.15	0.96	0.87	0.72	8.65	15.91	8.98	12.35	15.91
140 Z 20	4.32	9.56	1.91	1.59	1.28	1.06	0.96	0.80	9.56	19.32	10.95	15.01	19.32
170 Z 14	3.38	8.33	1.67	1.39	1.11	0.93	0.83	0.69	10.73	11.66	5.81	8.70	11.66
170 Z 15	3.62	9.95	1.99	1.66	1.33	1.11	1.00	0.83	11.46	13.94	6.96	10.39	13.94
170 Z 16	3.86	11.58	2.32	1.93	1.54	1.29	1.16	0.97	12.20	16.21	8.10	12.08	16.21
170 Z 18	4.33	13.65	2.73	2.28	1.82	1.52	1.37	1.14	13.65	20.71	10.37	15.42	20.71
170 Z 20	4.79	15.10	3.02	2.52	2.01	1.68	1.51	1.26	15.10	25.17	12.64	18.72	25.17
170 Z 25	5.94	18.59	3.72	3.10	2.48	2.07	1.86	1.55	18.59	35.94	18.22	26.72	35.94
200 Z 14	3.92	8.11	1.62	1.35	1.08	0.90	0.81	0.68	17.31	11.35	6.13	9.83	11.35
200 Z 15	4.20	10.37	2.07	1.73	1.38	1.15	1.04	0.86	18.50	14.52	7.84	12.55	14.52
200 Z 16	4.48	12.63	2.53	2.10	1.68	1.40	1.26	1.05	19.70	17.68	9.54	15.27	17.68
200 Z 18	5.03	17.09	3.42	2.85	2.28	1.90	1.71	1.42	22.08	23.92	12.93	20.62	23.92
200 Z 20	5.58	21.51	4.30	3.59	2.87	2.39	2.15	1.79	24.44	30.11	16.30	25.91	30.11
200 Z 25	6.92	30.17	6.03	5.03	4.02	3.35	3.02	2.51	30.17	45.17	24.56	38.72	45.17
240 Z 15	4.81	11.64	2.33	1.94	1.55	1.29	1.16	0.97	29.76	16.30	8.25	14.02	16.30
240 Z 16	5.13	14.67	2.93	2.44	1.96	1.63	1.47	1.22	31.71	20.53	10.40	17.64	20.53
240 Z 18	5.77	20.66	4.13	3.44	2.75	2.30	2.07	1.72	35.56	28.93	14.65	24.79	28.93
Span = 5.5m													
170 Z 14	3.38	7.57	1.38	1.15	0.92	0.76	0.69	0.57	8.87	10.60	5.03	7.15	10.60
170 Z 15	3.62	9.05	1.65	1.37	1.10	0.91	0.82	0.69	9.47	12.67	6.02	8.54	12.67
170 Z 16	3.86	10.08	1.83	1.53	1.22	1.02	0.92	0.76	10.08	14.74	7.01	9.93	14.74
170 Z 18	4.33	11.28	2.05	1.71	1.37	1.14	1.03	0.85	11.28	18.83	8.98	12.68	18.83
170 Z 20	4.79	12.48	2.27	1.89	1.51	1.26	1.13	0.95	12.48	22.88	10.95	15.41	22.88
170 Z 25	5.94	15.36	2.79	2.33	1.86	1.55	1.40	1.16	15.36	32.67	15.80	22.04	32.67
200 Z 14	3.92	7.37	1.34	1.12	0.89	0.74	0.67	0.56	14.30	10.32	5.25	8.03	10.32
200 Z 15	4.20	9.43	1.71	1.43	1.14	0.95	0.86	0.71	15.29	13.20	6.71	10.25	13.20
200 Z 16	4.48	11.48	2.09	1.74	1.39	1.16	1.04	0.87	16.28	16.07	8.17	12.47	16.07
200 Z 18	5.03	15.53	2.82	2.35	1.88	1.57	1.41	1.18	18.25	21.75	11.08	16.86	21.75
200 Z 20	5.58	19.55	3.56	2.96	2.37	1.98	1.78	1.48	20.20	27.38	13.97	21.19	27.38
200 Z 25	6.92	24.93	4.53	3.78	3.02	2.52	2.27	1.89	24.93	41.06	21.08	31.71	41.06
240 Z 15	4.81	10.58	1.92	1.60	1.28	1.07	0.96	0.80	24.60	14.82	7.00	11.38	14.82
240 Z 16	5.13	13.33	2.42	2.02	1.62	1.35	1.21	1.01	26.20	18.67	8.81	14.32	18.67
240 Z 18	5.77	18.78	3.42	2.85	2.28	1.90	1.71	1.42	29.39	26.30	12.42	20.12	26.30
240 Z 20	6.39	24.19	4.40	3.66	2.93	2.44	2.20	1.83	32.57	33.86	16.01	25.86	33.86

ZED RAILS SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
170 Z 14	3.38	6.94	1.16	0.96	0.77	0.64	0.58	0.48	7.45	9.71	4.43	6.01	9.29
170 Z 15	3.62	7.96	1.33	1.11	0.88	0.74	0.66	0.55	7.96	11.61	5.30	7.18	11.10
170 Z 16	3.86	8.47	1.41	1.18	0.94	0.78	0.71	0.59	8.47	13.51	6.18	8.35	12.89
170 Z 18	4.33	9.48	1.58	1.32	1.05	0.88	0.79	0.66	9.48	17.26	7.92	10.67	16.43
170 Z 20	4.79	10.49	1.75	1.46	1.17	0.97	0.87	0.73	10.49	20.97	9.65	12.98	19.93
170 Z 25	5.94	12.91	2.15	1.79	1.43	1.20	1.08	0.90	12.91	29.95	13.94	18.59	28.34
200 Z 14	3.92	6.76	1.13	0.94	0.75	0.63	0.56	0.47	12.02	9.46	4.58	6.69	9.39
200 Z 15	4.20	8.64	1.44	1.20	0.96	0.80	0.72	0.60	12.85	12.10	5.86	8.55	12.00
200 Z 16	4.48	10.52	1.75	1.46	1.17	0.97	0.88	0.73	13.68	14.73	7.14	10.40	14.59
200 Z 18	5.03	14.24	2.37	1.98	1.58	1.32	1.19	0.99	15.33	19.94	9.68	14.07	19.70
200 Z 20	5.58	16.98	2.83	2.36	1.89	1.57	1.41	1.18	16.98	25.10	12.21	17.69	24.74
200 Z 25	6.92	20.95	3.49	2.91	2.33	1.94	1.75	1.45	20.95	37.64	18.44	26.51	36.89
240 Z 15	4.81	9.70	1.62	1.35	1.08	0.90	0.81	0.67	20.67	13.58	6.06	9.41	13.33
240 Z 16	5.13	12.22	2.04	1.70	1.36	1.13	1.02	0.85	22.02	17.11	7.63	11.84	16.77
240 Z 18	5.77	17.22	2.87	2.39	1.91	1.59	1.43	1.20	24.70	24.11	10.76	16.65	23.56
240 Z 20	6.39	22.17	3.70	3.08	2.46	2.05	1.85	1.54	27.36	31.04	13.87	21.40	30.27
240 Z 25	7.94	33.84	5.64	4.70	3.76	3.13	2.82	2.35	33.84	47.97	21.52	32.96	46.52
Span = 6.5m													
200 Z 16	4.48	9.71	1.49	1.25	1.00	0.83	0.75	0.62	11.66	13.60	6.34	8.84	12.38
200 Z 18	5.03	13.06	2.01	1.67	1.34	1.12	1.00	0.84	13.06	18.40	8.60	11.96	16.71
200 Z 20	5.58	14.46	2.23	1.85	1.48	1.24	1.11	0.93	14.46	23.16	10.85	15.05	20.98
200 Z 25	6.92	17.85	2.75	2.29	1.83	1.53	1.37	1.14	17.85	34.74	16.39	22.57	31.29
240 Z 15	4.81	8.96	1.38	1.15	0.92	0.77	0.69	0.57	17.61	12.54	5.33	7.92	11.38
240 Z 16	5.13	11.28	1.74	1.45	1.16	0.96	0.87	0.72	18.76	15.80	6.72	9.97	14.31
240 Z 18	5.77	15.89	2.45	2.04	1.63	1.36	1.22	1.02	21.04	22.25	9.48	14.03	20.11
240 Z 20	6.39	20.47	3.15	2.62	2.10	1.75	1.57	1.31	23.32	28.65	12.22	18.04	25.83
240 Z 25	7.94	28.84	4.44	3.70	2.96	2.46	2.22	1.85	28.84	44.28	18.98	27.81	39.66
240 Z 30	9.47	34.18	5.26	4.38	3.51	2.92	2.63	2.19	34.18	59.44	25.64	37.28	52.91
Span = 7.0m													
200 Z 16	4.48	9.02	1.29	1.07	0.86	0.72	0.64	0.54	10.05	12.63	5.70	7.64	10.52
200 Z 18	5.03	11.26	1.61	1.34	1.07	0.89	0.80	0.67	11.26	17.09	7.73	10.33	14.20
200 Z 20	5.58	12.47	1.78	1.48	1.19	0.99	0.89	0.74	12.47	21.51	9.75	13.01	17.83
200 Z 25	6.92	15.39	2.20	1.83	1.47	1.22	1.10	0.92	15.39	32.26	14.75	19.54	26.62
240 Z 16	5.13	10.48	1.50	1.25	1.00	0.83	0.75	0.62	16.18	14.67	6.00	8.54	12.18
240 Z 18	5.77	14.76	2.11	1.76	1.41	1.17	1.05	0.88	18.14	20.66	8.46	12.01	17.11
240 Z 20	6.39	19.01	2.72	2.26	1.81	1.51	1.36	1.13	20.10	26.61	10.92	15.45	21.97
240 Z 25	7.94	24.86	3.55	2.96	2.37	1.97	1.78	1.48	24.86	41.12	16.97	23.84	33.73
240 Z 30	9.47	29.48	4.21	3.51	2.81	2.34	2.11	1.75	29.48	55.20	22.94	32.00	45.01

ZED RAILS SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
240 Z 18	5.77	13.77	1.84	1.53	1.22	1.02	0.92	0.77	15.81	19.28	7.64	10.43	14.60
240 Z 20	6.39	17.51	2.34	1.95	1.56	1.30	1.17	0.97	17.51	24.83	9.86	13.43	18.75
240 Z 25	7.94	21.66	2.89	2.41	1.93	1.60	1.44	1.20	21.66	38.38	15.34	20.74	28.80
240 Z 30	9.47	25.68	3.42	2.85	2.28	1.90	1.71	1.43	25.68	51.52	20.74	27.87	38.45
Span = 8.0m													
240 Z 18	5.77	12.91	1.61	1.35	1.08	0.90	0.81	0.67	13.89	18.08	6.97	9.18	12.54
240 Z 20	6.39	15.39	1.92	1.60	1.28	1.07	0.96	0.80	15.39	23.28	9.00	11.82	16.11
240 Z 25	7.94	19.04	2.38	1.98	1.59	1.32	1.19	0.99	19.04	35.98	13.99	18.27	24.76
240 Z 30	9.47	22.57	2.82	2.35	1.88	1.57	1.41	1.18	22.57	48.30	18.94	24.57	33.09
Span = 8.5m													
240 Z 18	5.77	12.15	1.43	1.19	0.95	0.79	0.71	0.60	12.31	17.02	6.41	8.17	10.87
240 Z 20	6.39	13.63	1.60	1.34	1.07	0.89	0.80	0.67	13.63	21.91	8.27	10.52	13.96
240 Z 25	7.94	16.86	1.98	1.65	1.32	1.10	0.99	0.83	16.86	33.86	12.87	16.27	21.47
240 Z 30	9.47	19.99	2.35	1.96	1.57	1.31	1.18	0.98	19.99	45.46	17.42	21.91	28.71
300 Z 20	8.02	16.79	1.98	1.65	1.32	1.10	0.99	0.82	27.13	23.51	9.81	14.27	20.48
300 Z 25	10.02	30.63	3.60	3.00	2.40	2.00	1.80	1.50	33.66	42.88	17.95	25.97	37.15
300 Z 30	11.97	40.02	4.71	3.92	3.14	2.62	2.35	1.96	40.02	61.79	25.96	37.35	53.25
Span = 9.0m													
240 Z 20	6.39	12.16	1.35	1.13	0.90	0.75	0.68	0.56	12.16	20.69	7.65	9.45	12.20
240 Z 25	7.94	15.04	1.67	1.39	1.11	0.93	0.84	0.70	15.04	31.98	11.92	14.63	18.77
240 Z 30	9.47	17.83	1.98	1.65	1.32	1.10	0.99	0.83	17.83	42.93	16.14	19.71	25.13
300 Z 20	8.02	15.86	1.76	1.47	1.17	0.98	0.88	0.73	24.20	22.20	9.00	12.68	18.03
300 Z 25	10.02	28.93	3.21	2.68	2.14	1.79	1.61	1.34	30.02	40.50	16.47	23.07	32.69
300 Z 30	11.97	35.70	3.97	3.31	2.64	2.20	1.98	1.65	35.70	58.35	23.84	33.21	46.86
Span = 9.5m													
300 Z 20	8.02	15.03	1.58	1.32	1.05	0.88	0.79	0.66	21.72	21.04	8.31	11.35	15.91
300 Z 25	10.02	26.94	2.84	2.36	1.89	1.58	1.42	1.18	26.94	38.37	15.22	20.68	28.85
300 Z 30	11.97	32.04	3.37	2.81	2.25	1.87	1.69	1.41	32.04	55.28	22.03	29.78	41.37
Span = 10.0m													
300 Z 20	8.02	14.27	1.43	1.19	0.95	0.79	0.71	0.59	19.60	19.98	7.72	10.25	14.10
300 Z 25	10.02	24.32	2.43	2.03	1.62	1.35	1.22	1.01	24.32	36.45	14.14	18.68	25.58
300 Z 30	11.97	28.92	2.89	2.41	1.93	1.61	1.45	1.20	28.92	52.52	20.48	26.92	36.69
Span = 10.5m													
300 Z 20	8.02	13.59	1.29	1.08	0.86	0.72	0.65	0.54	17.78	19.03	7.21	9.32	12.56
300 Z 25	10.02	22.06	2.10	1.75	1.40	1.17	1.05	0.88	22.06	34.71	13.21	16.99	22.79
300 Z 30	11.97	26.23	2.50	2.08	1.67	1.39	1.25	1.04	26.23	50.02	19.13	24.50	32.70
Span = 11.0m													
300 Z 20	8.02	12.98	1.18	0.98	0.79	0.66	0.59	0.49	16.20	18.17	6.77	8.53	11.24
300 Z 25	10.02	20.10	1.83	1.52	1.22	1.01	0.91	0.76	20.10	33.13	12.39	15.56	20.41
300 Z 30	11.97	23.90	2.17	1.81	1.45	1.21	1.09	0.91	23.90	47.74	17.96	22.44	29.31

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 C 14	3.06	13.47	4.49	3.74	2.99	2.50	2.25	1.87	25.48	18.86	18.86	18.86	18.86
140 C 15	3.26	15.86	5.29	4.40	3.52	2.94	2.64	2.20	27.20	22.20	22.20	22.20	22.20
140 C 16	3.48	18.23	6.08	5.06	4.05	3.38	3.04	2.53	28.94	25.52	25.52	25.52	25.52
140 C 18	3.90	22.91	7.64	6.36	5.09	4.24	3.82	3.18	32.37	32.08	32.08	32.08	32.08
140 C 20	4.32	27.54	9.18	7.65	6.12	5.10	4.59	3.83	35.78	38.56	38.56	38.56	38.56
Span = 3.5m													
140 C 14	3.06	11.55	3.30	2.75	2.20	1.83	1.65	1.37	18.72	16.17	16.17	16.17	16.17
140 C 15	3.26	13.59	3.88	3.24	2.59	2.16	1.94	1.62	19.99	19.03	19.03	19.03	19.03
140 C 16	3.48	15.63	4.46	3.72	2.98	2.48	2.23	1.86	21.26	21.88	21.88	21.88	21.88
140 C 18	3.90	19.64	5.61	4.68	3.74	3.12	2.81	2.34	23.78	27.49	27.49	27.49	27.49
140 C 20	4.32	23.61	6.74	5.62	4.50	3.75	3.37	2.81	26.28	33.05	33.05	33.05	33.05
Span = 4.0m													
140 C 14	3.06	10.11	2.53	2.11	1.68	1.40	1.26	1.05	14.33	14.15	14.15	14.15	14.15
140 C 15	3.26	11.89	2.97	2.48	1.98	1.65	1.49	1.24	15.30	16.65	16.65	16.65	16.65
140 C 16	3.48	13.67	3.42	2.85	2.28	1.90	1.71	1.42	16.28	19.14	19.14	19.14	19.14
140 C 18	3.90	17.18	4.30	3.58	2.86	2.39	2.15	1.79	18.21	24.06	24.06	24.06	24.06
140 C 20	4.32	20.12	5.03	4.19	3.35	2.79	2.52	2.10	20.12	28.92	28.92	28.92	28.92
170 C 14	3.38	13.05	3.26	2.72	2.18	1.81	1.63	1.36	22.48	18.27	18.27	18.27	18.27
170 C 15	3.62	15.37	3.84	3.20	2.56	2.13	1.92	1.60	24.01	21.51	21.51	21.51	21.51
170 C 16	3.86	17.68	4.42	3.68	2.95	2.45	2.21	1.84	25.56	24.75	24.75	24.75	24.75
170 C 18	4.33	22.23	5.56	4.63	3.71	3.09	2.78	2.32	28.61	31.13	31.13	31.13	31.13
170 C 20	4.79	26.75	6.69	5.57	4.46	3.71	3.34	2.79	31.65	37.45	37.45	37.45	37.45
170 C 25	5.94	37.64	9.41	7.84	6.27	5.23	4.71	3.92	38.94	52.70	52.70	52.70	52.70
200 C 14	3.92	14.30	3.58	2.98	2.38	1.99	1.79	1.49	35.95	20.02	20.02	20.02	20.02
200 C 15	4.20	17.49	4.37	3.64	2.92	2.43	2.19	1.82	38.43	24.49	24.49	24.49	24.49
Span = 4.5m													
140 C 14	3.06	8.98	1.00	1.66	1.33	1.11	1.00	0.83	11.33	12.58	12.47	12.58	12.58
140 C 15	3.26	10.57	2.35	1.96	1.57	1.31	1.17	0.98	12.09	14.80	14.80	14.80	14.80
140 C 16	3.48	12.15	2.70	2.25	1.80	1.50	1.35	1.13	12.86	17.02	17.02	17.02	17.02
140 C 18	3.90	14.39	3.20	2.66	2.13	1.78	1.60	1.33	14.39	21.38	21.38	21.38	21.38
140 C 20	4.32	15.90	3.53	2.94	2.36	1.96	1.77	1.47	15.90	25.70	25.70	25.70	25.70
170 C 14	3.38	11.60	2.58	2.15	1.72	1.43	1.29	1.07	17.76	16.24	14.90	16.24	16.24
170 C 15	3.62	13.66	3.04	2.53	2.02	1.69	1.52	1.26	18.97	19.12	18.02	19.12	19.12
170 C 16	3.86	15.71	3.49	2.91	2.33	1.94	1.75	1.45	20.19	21.00	21.14	21.00	21.00
170 C 18	4.33	19.76	4.39	3.66	2.93	2.44	2.20	1.83	22.60	27.67	27.34	27.67	27.67
170 C 20	4.79	23.78	5.28	4.40	3.52	2.94	2.64	2.20	25.00	33.29	33.29	33.29	33.29
170 C 25	5.94	30.77	6.84	5.70	4.56	3.80	3.42	2.85	30.77	46.84	46.84	46.84	46.84
200 C 14	3.92	12.71	2.83	2.35	1.88	1.57	1.41	1.18	28.41	17.80	17.01	17.80	17.80
200 C 15	4.20	15.55	3.46	2.88	2.30	1.92	1.73	1.44	30.36	21.77	21.76	21.77	21.77
200 C 16	4.48	18.37	4.08	3.40	2.72	2.27	2.04	1.70	32.33	25.72	25.72	25.72	25.72

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 C 14	3.06	8.08	1.62	1.35	1.08	0.90	0.81	0.67	9.17	11.32	10.36	11.32	11.32
140 C 15	3.26	9.51	1.90	1.59	1.27	1.06	0.95	0.79	9.79	13.32	12.53	13.32	13.32
140 C 16	3.48	10.42	2.08	1.74	1.39	1.16	1.04	0.87	10.42	15.31	14.72	15.31	15.31
140 C 18	3.90	11.65	2.33	1.94	1.55	1.29	1.17	0.97	11.65	19.25	19.07	19.25	19.25
140 C 20	4.32	12.88	2.58	2.15	1.72	1.43	1.29	1.07	12.88	23.13	23.13	23.13	23.13
170 C 14	3.38	10.44	2.09	1.74	1.39	1.16	1.04	0.87	14.39	14.62	12.30	14.62	14.62
170 C 15	3.62	12.29	2.46	2.05	1.64	1.37	1.23	1.02	15.37	17.21	14.88	17.21	17.21
170 C 16	3.86	14.14	2.83	2.36	1.89	1.57	1.41	1.18	16.36	19.80	17.46	19.80	19.80
170 C 18	4.33	17.79	3.56	2.96	2.37	1.98	1.78	1.48	18.31	24.90	22.60	24.90	24.90
170 C 20	4.79	20.25	4.05	3.38	2.70	2.25	2.03	1.69	20.25	29.96	27.75	29.96	29.96
170 C 25	5.94	24.92	4.98	4.15	3.32	2.77	2.49	2.08	24.92	42.16	40.47	42.16	42.16
200 C 14	3.92	11.44	2.29	1.91	1.53	1.27	1.14	0.95	23.01	16.02	13.92	16.02	16.02
200 C 15	4.20	13.99	2.80	2.33	1.87	1.55	1.40	1.17	24.59	19.59	17.80	19.59	19.59
200 C 16	4.48	16.53	3.31	2.76	2.20	1.84	1.65	1.38	26.19	23.15	21.69	23.15	23.15
200 C 18	5.03	21.55	4.31	3.59	2.87	2.39	2.16	1.80	29.35	30.17	29.40	30.17	30.17
200 C 20	5.58	26.52	5.30	4.42	3.54	2.95	2.65	2.21	32.50	37.12	37.08	37.12	37.12
200 C 25	6.92	38.57	7.71	6.43	5.14	4.29	3.86	3.21	40.10	53.99	53.99	53.99	53.99
240 C 15	4.81	16.90	3.38	2.82	2.25	1.88	1.69	1.41	39.52	23.67	20.38	23.67	23.67
240 C 16	5.13	20.33	4.07	3.39	2.71	2.26	2.03	1.69	42.10	28.46	25.48	28.46	28.46
240 C 18	5.77	27.09	5.42	4.52	3.61	3.01	2.71	2.26	47.22	37.93	35.60	37.93	37.93
Span = 5.5m													
140 C 14	3.06	7.35	1.34	1.11	0.89	0.74	0.67	0.56	7.58	10.29	8.82	10.29	10.29
140 C 15	3.26	8.09	1.47	1.23	0.98	0.82	0.74	0.61	8.09	12.11	10.67	12.11	12.11
140 C 16	3.48	8.61	1.57	1.30	1.04	0.87	0.78	0.65	8.61	13.92	12.54	13.92	13.92
140 C 18	3.90	9.63	1.75	1.46	1.17	0.97	0.88	0.73	9.63	17.50	16.26	17.50	17.50
140 C 20	4.32	10.64	1.94	1.61	1.29	1.08	0.97	0.81	10.64	21.03	20.00	21.03	21.03
170 C 14	3.38	9.49	1.73	1.44	1.15	0.96	0.86	0.72	11.89	13.29	10.41	13.29	13.29
170 C 15	3.62	11.18	2.03	1.69	1.35	1.13	1.02	0.85	12.70	15.65	12.60	15.65	15.65
170 C 16	3.86	12.86	2.34	1.95	1.56	1.30	1.17	0.97	13.52	17.00	14.79	17.00	17.00
170 C 18	4.33	15.13	2.75	2.29	1.83	1.53	1.38	1.15	15.13	22.64	19.16	22.64	22.64
170 C 20	4.79	16.74	3.04	2.54	2.03	1.69	1.52	1.27	16.74	27.23	23.54	27.23	27.23
170 C 25	5.94	20.60	3.74	3.12	2.50	2.08	1.87	1.56	20.60	38.33	34.40	38.33	38.33
200 C 14	3.92	10.40	1.89	1.58	1.26	1.05	0.95	0.79	19.02	14.56	11.67	14.56	14.56
200 C 15	4.20	12.72	2.31	1.93	1.54	1.29	1.16	0.96	20.33	17.81	14.94	17.81	17.81
200 C 16	4.48	15.03	2.73	2.28	1.82	1.52	1.37	1.14	21.64	21.04	18.20	21.04	21.04
200 C 18	5.03	19.59	3.56	2.97	2.37	1.98	1.78	1.48	24.26	27.43	24.69	27.43	27.43
200 C 20	5.58	24.11	4.38	3.65	2.92	2.43	2.19	1.83	26.86	33.75	31.16	33.75	33.75
200 C 25	6.92	33.14	6.03	5.02	4.02	3.35	3.01	2.51	33.14	49.09	47.12	49.09	49.09
240 C 15	4.81	15.37	2.79	2.33	1.86	1.55	1.40	1.16	32.66	21.51	16.92	21.51	21.51
240 C 16	5.13	18.48	3.36	2.80	2.24	1.87	1.68	1.40	34.80	25.87	21.16	25.87	25.87
240 C 18	5.77	24.63	4.48	3.73	2.99	2.49	2.24	1.87	39.03	34.48	29.58	34.48	34.48

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
140 C 14	3.06	6.37	1.06	0.88	0.71	0.59	0.53	0.44	6.37	9.43	7.66	9.04	9.43
140 C 15	3.26	6.80	1.13	0.94	0.76	0.63	0.57	0.47	6.80	11.10	9.27	10.93	11.10
140 C 16	3.48	7.24	1.21	1.00	0.80	0.67	0.60	0.50	7.24	12.76	10.90	12.76	12.76
140 C 18	3.90	8.09	1.35	1.12	0.90	0.75	0.67	0.56	8.09	16.04	14.14	16.04	16.04
140 C 20	4.32	8.94	1.49	1.24	0.99	0.83	0.75	0.62	8.94	19.28	17.40	19.28	19.28
170 C 14	3.38	8.70	1.45	1.21	0.97	0.81	0.73	0.60	9.99	12.18	8.99	11.59	12.18
170 C 15	3.62	10.24	1.71	1.42	1.14	0.95	0.85	0.71	10.67	14.34	10.89	14.01	14.34
170 C 16	3.86	11.36	1.89	1.58	1.26	1.05	0.95	0.79	11.36	16.50	12.79	16.43	16.50
170 C 18	4.33	12.71	2.12	1.77	1.41	1.18	1.06	0.88	12.71	20.75	16.57	20.75	20.75
170 C 20	4.79	14.06	2.34	1.95	1.56	1.30	1.17	0.98	14.06	24.96	20.38	24.96	24.96
170 C 25	5.94	17.31	2.88	2.40	1.92	1.60	1.44	1.20	17.31	35.13	29.82	35.13	35.13
200 C 14	3.92	9.53	1.59	1.32	1.06	0.88	0.79	0.66	15.98	13.35	10.00	13.35	13.35
200 C 15	4.20	11.66	1.94	1.62	1.30	1.08	0.97	0.81	17.08	16.33	12.80	16.33	16.33
200 C 16	4.48	13.78	2.30	1.91	1.53	1.28	1.15	0.96	18.19	19.29	15.60	19.29	19.29
200 C 18	5.03	17.96	2.99	2.49	1.00	1.66	1.50	1.25	20.38	25.14	21.17	25.14	25.14
200 C 20	5.58	22.10	3.68	3.07	2.46	2.05	1.84	1.53	22.57	30.94	26.73	30.94	30.94
200 C 25	6.92	27.85	4.64	3.87	3.09	2.58	2.32	1.93	27.85	44.00	40.49	44.00	44.00
240 C 15	4.81	14.09	2.35	1.96	1.57	1.30	1.17	0.98	27.44	19.72	14.35	19.72	19.72
240 C 16	5.13	16.94	2.82	2.35	1.88	1.57	1.41	1.18	29.24	23.71	17.95	23.71	23.71
240 C 18	5.77	22.58	3.76	3.14	2.51	2.09	1.88	1.57	32.79	31.61	25.10	31.61	31.61
240 C 20	6.39	28.16	4.69	3.91	3.13	2.61	2.35	1.96	36.34	39.42	32.23	39.42	39.42
Span = 6.5m													
170 C 14	3.38	8.03	1.24	1.03	0.82	0.69	0.62	0.51	8.51	11.24	7.90	9.90	11.24
170 C 15	3.62	9.09	1.40	1.17	0.93	0.78	0.70	0.58	9.09	13.24	9.57	11.97	13.24
170 C 16	3.86	9.68	1.49	1.24	0.99	0.83	0.74	0.62	9.68	15.23	11.24	14.05	15.23
170 C 18	4.33	10.83	1.67	1.39	1.11	0.93	0.83	0.69	10.83	19.16	14.58	18.16	18.64
170 C 20	4.79	11.98	1.84	1.54	1.23	1.02	0.92	0.77	11.98	23.04	17.93	22.28	22.67
170 C 25	5.94	14.75	2.27	1.89	1.51	1.26	1.13	0.95	14.75	32.43	26.28	32.40	32.43
200 C 14	3.92	8.80	1.35	1.13	0.90	0.75	0.68	0.56	13.61	12.32	8.71	11.42	12.32
200 C 15	4.20	10.76	1.66	1.38	1.10	0.92	0.83	0.69	14.55	15.07	11.16	14.61	15.07
200 C 16	4.48	12.72	1.96	1.63	1.30	1.09	0.98	0.82	15.50	17.81	13.60	17.79	17.81
200 C 18	5.03	16.58	2.55	2.13	1.70	1.42	1.28	1.06	17.37	23.21	18.47	23.21	23.21
200 C 20	5.58	19.23	2.96	2.47	1.97	1.64	1.48	1.23	19.23	28.56	23.34	28.56	28.56
200 C 25	6.92	23.73	3.65	3.04	2.43	2.03	1.83	1.52	23.73	41.53	35.39	41.53	41.53
240 C 15	4.81	13.00	2.00	1.67	1.33	1.11	1.00	0.83	23.38	18.20	12.39	16.94	18.20
240 C 16	5.13	15.64	2.41	2.00	1.60	1.34	1.20	1.00	24.91	21.89	15.51	21.17	21.89
240 C 18	5.77	20.84	3.21	2.67	2.14	1.78	1.60	1.34	27.94	29.17	21.69	29.17	29.17
240 C 20	6.39	25.99	3.00	3.33	2.67	2.22	1.00	1.67	30.96	36.39	27.86	36.39	36.39
240 C 25	7.94	38.29	5.89	4.91	3.93	3.27	2.95	2.45	38.29	53.96	43.11	53.96	53.96
240 C 30	9.47	45.39	6.98	5.82	4.66	3.88	3.49	2.91	45.39	70.98	58.24	70.98	70.98

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.0m													
170 C 14	3.38	7.34	1.05	0.87	0.70	0.58	0.52	0.44	7.34	10.44	7.04	8.59	10.44
170 C 15	3.62	7.84	1.12	0.93	0.75	0.62	0.56	0.47	7.84	12.29	8.52	10.38	12.29
170 C 16	3.86	8.34	1.19	0.99	0.79	0.66	0.60	0.50	8.34	14.14	10.02	12.19	14.14
170 C 18	4.33	9.34	1.33	1.11	0.89	0.74	0.67	0.56	9.34	17.79	13.00	15.77	15.68
170 C 20	4.79	10.33	1.48	1.23	0.98	0.82	0.74	0.62	10.33	21.40	15.99	19.35	19.07
170 C 25	5.94	12.71	1.82	1.51	1.21	1.01	0.91	0.76	12.71	30.11	23.46	28.20	27.51
200 C 14	3.92	8.17	1.17	0.97	0.78	0.65	0.58	0.49	11.74	11.44	7.71	9.85	11.44
200 C 15	4.20	9.00	1.43	1.19	0.95	0.79	0.71	0.59	12.55	13.99	9.87	12.60	13.99
200 C 16	4.48	11.81	1.69	1.41	1.12	0.94	0.84	0.70	13.36	16.53	12.03	15.35	16.53
200 C 18	5.03	14.97	2.14	1.78	1.43	1.19	1.07	0.89	14.97	21.55	16.35	20.80	21.55
200 C 20	5.58	16.58	2.37	1.97	1.58	1.32	1.18	0.99	16.58	26.52	20.66	26.22	26.52
200 C 25	6.92	20.46	2.92	2.44	1.95	1.62	1.46	1.22	20.46	38.57	31.38	38.57	38.57
240 C 15	4.81	12.07	1.72	1.44	1.15	0.96	0.86	0.72	20.16	16.90	10.87	14.52	16.90
240 C 16	5.13	14.52	2.07	1.73	1.38	1.15	1.04	0.86	21.48	20.33	13.60	18.14	20.33
240 C 18	5.77	19.35	2.76	2.30	1.84	1.54	1.38	1.15	24.09	27.09	19.03	25.33	27.09
240 C 20	6.39	24.13	3.45	2.87	2.30	1.92	1.72	1.44	26.70	33.79	24.46	32.47	33.79
240 C 25	7.94	33.02	4.72	3.93	3.14	2.62	2.36	1.97	33.02	50.10	37.89	49.96	50.10
240 C 30	9.47	39.14	5.59	4.66	3.73	3.11	2.80	2.33	39.14	65.91	51.25	65.91	65.91
Span = 7.5m													
200 C 16	4.48	11.02	1.47	1.22	0.98	0.82	0.73	0.61	11.64	15.43	10.78	13.41	20.11
200 C 18	5.03	13.04	1.74	1.45	1.16	0.97	0.87	0.72	13.04	20.11	14.65	18.18	24.75
200 C 20	5.58	14.44	1.93	1.60	1.28	1.07	0.96	0.80	14.44	24.75	18.52	22.93	36.00
200 C 25	6.92	17.82	2.38	1.98	1.58	1.32	1.19	0.99	17.82	36.00	28.15	34.64	15.78
240 C 15	4.81	11.27	1.50	1.25	1.00	0.83	0.75	0.63	17.56	15.78	9.65	12.58	18.97
240 C 16	5.13	13.55	1.81	1.51	1.20	1.00	0.90	0.75	18.71	18.97	12.08	15.73	25.28
240 C 18	5.77	18.06	2.41	2.01	1.61	1.34	1.20	1.00	20.99	25.28	16.92	21.98	31.54
240 C 20	6.39	22.53	3.00	2.50	2.00	1.67	1.50	1.25	23.26	31.54	21.75	28.18	46.76
240 C 25	7.94	28.76	3.83	3.20	2.56	2.13	1.92	1.60	28.76	46.76	33.72	43.42	61.52
240 C 30	9.47	34.09	4.55	3.79	3.03	2.53	2.27	1.89	34.09	61.52	45.66	58.39	61.52
Span = 8.0m													
200 C 16	4.48	10.23	1.28	1.07	0.85	0.71	0.64	0.53	10.23	14.47	9.75	11.85	14.47
200 C 18	5.03	11.46	1.43	1.19	0.96	0.80	0.72	0.60	11.46	18.86	13.26	16.07	18.86
200 C 20	5.58	12.69	1.59	1.32	1.06	0.88	0.79	0.66	12.69	23.20	16.77	20.28	23.20
200 C 25	6.92	15.66	1.96	1.63	1.31	1.09	0.98	0.82	15.66	33.75	25.51	30.68	33.75
240 C 15	4.81	10.57	1.32	1.10	0.88	0.73	0.66	0.55	15.44	14.79	8.67	11.03	14.79
240 C 16	5.13	12.70	1.59	1.32	1.06	0.88	0.79	0.66	16.45	17.79	10.85	13.79	17.79
240 C 18	5.77	16.93	2.12	1.76	1.41	1.18	1.06	0.88	18.45	23.70	15.20	19.28	23.70
240 C 20	6.39	20.44	2.55	2.13	1.70	1.42	1.28	1.06	20.44	29.56	19.55	24.73	29.56
240 C 25	7.94	25.28	3.16	2.63	2.11	1.76	1.58	1.32	25.28	43.84	30.34	38.15	43.84
240 C 30	9.47	29.96	3.75	3.12	2.50	2.08	1.87	1.56	29.96	57.67	41.12	51.37	57.67

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 8.5m													
240 C 18	5.77	15.94	1.87	1.56	1.25	1.04	0.94	0.78	16.34	22.31	13.79	17.08	22.31
240 C 20	6.39	18.11	2.13	1.78	1.42	1.18	1.07	0.89	18.11	27.83	17.74	21.92	27.83
240 C 25	7.94	22.39	2.63	2.20	1.76	1.46	1.32	1.10	22.39	41.26	27.55	33.86	41.26
240 C 30	9.47	26.54	3.12	2.60	2.08	1.73	1.56	1.30	26.54	54.28	37.37	45.65	54.28
300 C 20	8.02	22.79	2.68	2.23	1.79	1.49	1.34	1.12	36.02	31.91	21.76	29.42	31.91
300 C 25	10.02	38.35	4.51	3.76	3.01	2.51	2.26	1.88	44.68	53.69	39.86	53.63	53.69
300 C 30	11.97	53.12	6.25	5.21	4.17	3.47	3.12	2.60	53.12	74.91	57.78	74.91	74.91
Span = 9.0m													
240 C 18	5.77	14.58	1.62	1.35	1.08	0.90	0.81	0.67	14.58	21.07	12.61	15.27	20.33
240 C 20	6.39	16.15	1.79	1.50	1.20	1.00	0.90	0.75	16.15	26.28	16.23	19.61	26.04
240 C 25	7.94	19.97	2.22	1.85	1.48	1.23	1.11	0.92	19.97	38.97	25.22	30.32	38.97
240 C 30	9.47	23.68	2.63	2.19	1.75	1.46	1.32	1.10	23.68	51.26	34.23	40.93	51.26
300 C 20	8.02	21.52	2.39	1.99	1.59	1.33	1.20	1.00	32.13	30.13	19.69	26.12	30.13
300 C 25	10.02	36.22	4.02	3.35	2.68	2.24	2.01	1.68	39.85	50.71	36.09	47.65	50.71
300 C 30	11.97	47.38	5.26	4.39	3.51	2.92	2.63	2.19	47.38	70.74	52.35	68.75	70.74
Span = 9.5m													
240 C 20	6.39	14.49	1.53	1.27	1.02	0.85	0.76	0.64	14.49	24.90	14.95	17.69	23.09
240 C 25	7.94	17.93	1.89	1.57	1.26	1.05	0.94	0.79	17.93	36.92	23.25	27.37	35.46
240 C 30	9.47	21.25	2.24	1.86	1.49	1.24	1.12	0.93	21.25	48.57	31.57	37.00	47.53
300 C 20	8.02	20.39	2.15	1.79	1.43	1.19	1.07	0.89	28.83	28.55	17.96	23.37	28.55
300 C 25	10.02	34.32	3.61	3.01	2.41	2.01	1.81	1.51	35.76	48.04	32.93	42.65	48.04
300 C 30	11.97	42.53	4.48	3.73	2.98	2.49	2.24	1.87	42.53	67.02	47.79	61.58	67.02
Span = 10.0m													
240 C 20	6.39	13.08	1.31	1.09	0.87	0.73	0.65	0.55	13.08	23.65	13.85	16.07	20.58
240 C 25	7.94	16.18	1.62	1.35	1.08	0.90	0.81	0.67	16.18	35.07	21.55	24.90	31.64
240 C 30	9.47	19.18	1.92	1.60	1.28	1.07	0.96	0.80	19.18	46.14	29.28	33.68	42.45
300 C 20	8.02	19.37	1.94	1.61	1.29	1.08	0.97	0.81	26.02	27.12	16.49	21.04	27.12
300 C 25	10.02	32.28	3.23	2.69	2.15	1.79	1.61	1.34	32.28	45.64	30.25	38.44	45.64
300 C 30	11.97	38.38	3.84	3.20	2.56	2.13	1.92	1.60	38.38	63.67	43.93	55.54	63.67
Span = 10.5m													
300 C 20	8.02	18.45	1.76	1.46	1.17	0.98	0.88	0.73	23.60	25.83	15.23	19.08	25.83
300 C 25	10.02	29.28	2.79	2.32	1.86	1.55	1.39	1.16	29.28	43.47	27.96	34.86	43.47
300 C 30	11.97	34.81	3.32	2.76	2.21	1.84	1.66	1.38	34.81	60.64	40.62	50.42	60.64
Span = 11.0m													
300 C 20	8.02	17.61	1.60	1.33	1.07	0.89	0.80	0.67	21.51	24.65	14.14	17.40	23.42
300 C 25	10.02	26.68	2.43	2.02	1.62	1.35	1.21	1.01	26.68	41.49	25.98	31.81	41.49
300 C 30	11.97	31.72	2.88	2.40	1.92	1.60	1.44	1.20	31.72	57.88	37.76	46.04	57.88
Span = 11.5m													
300 C 20	8.02	16.84	1.46	1.22	0.98	0.81	0.73	0.61	19.68	23.58	13.20	15.95	21.23
300 C 25	10.02	24.41	2.12	1.77	1.41	1.18	1.06	0.88	24.41	39.69	24.25	29.19	38.64
300 C 30	11.97	29.02	2.52	2.10	1.68	1.40	1.26	1.05	29.02	55.37	35.26	42.27	55.37

CEE SECTIONS - SLEEVED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 12.0m													
300 C 25	10.02	22.42	1.87	1.56	1.25	1.04	0.93	0.78	22.42	38.03	22.73	26.91	35.15
300 C 30	11.97	26.65	2.22	1.85	1.48	1.23	1.11	0.93	26.65	53.06	33.07	39.00	50.63

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 C 14	3.06	12.56	4.19	3.49	2.79	2.33	2.09	1.74	33.41	17.58	17.58	17.58	17.58
140 C 15	3.26	14.87	4.96	4.13	3.30	2.75	2.48	2.07	35.66	20.82	20.82	20.82	20.82
140 C 16	3.48	17.18	5.73	4.77	3.82	3.18	2.86	2.39	37.94	24.05	24.05	24.05	24.05
140 C 18	3.90	21.72	7.24	6.03	4.83	4.02	3.62	3.02	42.43	30.41	30.41	30.41	30.41
140 C 20	4.32	26.22	8.74	7.28	5.83	4.85	4.37	3.64	46.90	36.70	36.70	36.70	36.70
Span = 3.5m													
140 C 14	3.06	11.11	3.17	2.64	2.12	1.76	1.59	1.32	24.54	15.55	15.55	15.55	15.55
140 C 15	3.26	13.12	3.75	3.12	2.50	2.08	1.87	1.56	26.20	18.36	18.36	18.36	18.36
140 C 16	3.48	15.12	4.32	3.60	2.88	2.40	2.16	1.80	27.87	21.16	21.16	21.16	21.16
140 C 18	3.90	19.06	5.45	4.54	3.63	3.03	2.72	2.27	31.17	26.69	26.69	26.69	26.69
140 C 20	4.32	22.97	6.56	5.47	4.37	3.65	3.28	2.73	34.46	32.15	32.15	32.15	32.15
Span = 4.0m													
140 C 14	3.06	9.94	2.49	2.07	1.66	1.38	1.24	1.04	18.79	13.92	13.92	13.92	13.92
140 C 15	3.26	11.72	2.93	2.44	1.95	1.63	1.46	1.22	20.06	16.40	16.40	16.40	16.40
140 C 16	3.48	13.48	3.37	2.81	2.25	1.87	1.69	1.40	21.34	18.88	18.88	18.88	18.88
140 C 18	3.90	16.97	4.24	3.54	2.83	2.36	2.12	1.77	23.87	23.76	23.76	23.76	23.76
140 C 20	4.32	20.42	5.10	4.25	3.40	2.84	2.55	2.13	26.38	28.59	28.59	28.59	28.59
170 C 14	3.38	12.41	3.10	2.58	2.07	1.72	1.55	1.29	29.47	17.37	17.37	17.37	17.37
170 C 15	3.62	14.67	3.67	3.06	2.45	2.04	1.83	1.53	31.48	20.54	20.54	20.54	20.54
170 C 16	3.86	16.93	4.23	3.53	2.82	2.35	2.12	1.76	33.50	23.71	23.71	23.71	23.71
170 C 18	4.33	21.40	5.35	4.46	3.57	2.97	2.67	2.23	37.50	29.95	29.95	29.95	29.95
170 C 20	4.79	25.81	6.45	5.38	4.30	3.59	3.23	2.69	41.48	36.14	36.14	36.14	36.14
170 C 25	5.94	36.48	9.12	7.60	6.08	5.07	4.56	3.80	51.05	51.07	51.07	51.07	51.07
200 C 14	3.92	12.87	3.22	2.68	2.14	1.79	1.61	1.34	47.13	18.01	18.01	18.01	18.01
200 C 15	4.20	15.93	3.98	3.32	2.66	2.21	1.99	1.66	50.37	22.31	22.31	22.31	22.31

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 4.5m													
140 C 14	3.06	8.99	1.00	1.66	1.33	1.11	1.00	0.83	14.85	12.59	12.47	12.59	12.59
140 C 15	3.26	10.58	2.35	1.96	1.57	1.31	1.18	0.98	15.85	14.81	14.81	14.81	14.81
140 C 16	3.48	12.16	2.70	2.25	1.80	1.50	1.35	1.13	16.86	17.03	17.03	17.03	17.03
140 C 18	3.90	15.29	3.40	2.83	2.26	1.89	1.70	1.42	18.86	21.40	21.40	21.40	21.40
140 C 20	4.32	18.37	4.08	3.40	2.72	2.27	2.04	1.70	20.84	25.72	25.72	25.72	25.72
170 C 14	3.38	11.27	2.50	2.09	1.67	1.39	1.25	1.04	23.28	15.78	14.90	15.78	15.78
170 C 15	3.62	13.30	2.96	2.46	1.97	1.64	1.48	1.23	24.87	18.63	18.02	18.63	18.63
170 C 16	3.86	15.33	3.41	2.84	2.27	1.89	1.70	1.42	26.47	21.46	21.14	21.46	21.46
170 C 18	4.33	19.33	4.30	3.58	2.86	2.39	2.15	1.79	29.63	27.07	27.07	27.07	27.07
170 C 20	4.79	23.30	5.18	4.31	3.45	2.88	2.59	2.16	32.78	32.62	32.62	32.62	32.62
170 C 25	5.94	32.86	7.30	6.09	4.87	4.06	3.65	3.04	40.33	46.01	46.01	46.01	46.01
200 C 14	3.92	11.82	2.63	2.19	1.75	1.46	1.31	1.09	37.24	16.55	16.55	16.55	16.55
200 C 15	4.20	14.58	3.24	2.70	2.16	1.80	1.62	1.35	39.80	20.41	20.41	20.41	20.41
200 C 16	4.48	17.33	3.85	3.21	2.57	2.14	1.93	1.60	42.39	24.26	24.26	24.26	24.26
Span = 5.0m													
140 C 14	3.06	8.20	1.64	1.37	1.09	0.91	0.82	0.68	12.03	11.48	10.36	11.48	11.48
140 C 15	3.26	9.64	1.93	1.61	1.29	1.07	0.96	0.80	12.84	13.50	12.53	13.50	13.50
140 C 16	3.48	11.07	2.21	1.85	1.48	1.23	1.11	0.92	13.66	15.50	14.72	15.50	15.50
140 C 18	3.90	13.90	2.78	2.32	1.85	1.54	1.39	1.16	15.28	19.46	19.07	19.46	19.46
140 C 20	4.32	16.69	3.34	2.78	2.23	1.85	1.67	1.39	16.88	23.37	23.37	23.37	23.37
170 C 14	3.38	10.32	2.06	1.72	1.38	1.15	1.03	0.86	18.86	14.44	12.30	14.44	14.44
170 C 15	3.62	12.16	2.43	2.03	1.62	1.35	1.22	1.01	20.15	17.03	14.88	17.03	17.03
170 C 16	3.86	13.00	2.80	2.33	1.87	1.56	1.40	1.17	21.44	19.60	17.46	19.60	19.60
170 C 18	4.33	17.63	3.53	2.94	2.35	1.96	1.76	1.47	24.00	24.68	22.60	24.68	24.68
170 C 20	4.79	21.22	4.24	3.54	2.83	2.36	2.12	1.77	26.55	29.71	27.75	29.71	29.71
170 C 25	5.94	29.89	5.98	4.98	3.99	3.32	2.99	2.49	32.67	41.85	40.47	41.85	41.85
200 C 14	3.92	10.91	2.18	1.82	1.46	1.21	1.09	0.91	30.16	15.28	13.92	15.28	15.28
200 C 15	4.20	13.42	2.68	2.24	1.79	1.49	1.34	1.12	32.24	18.79	17.80	18.79	18.79
200 C 16	4.48	15.92	3.18	2.65	2.12	1.77	1.59	1.33	34.33	22.28	21.69	22.28	22.28
200 C 18	5.03	20.85	4.17	3.47	2.78	2.32	2.08	1.74	38.47	29.19	29.19	29.19	29.19
200 C 20	5.58	25.73	5.15	4.29	3.43	2.86	2.57	2.14	42.60	36.02	36.02	36.02	36.02
200 C 25	6.92	37.59	7.52	6.26	5.01	4.18	3.76	3.13	52.57	52.62	52.62	52.62	52.62
240 C 15	4.81	15.43	3.09	2.57	2.06	1.71	1.54	1.29	51.81	21.61	20.38	21.61	21.61
240 C 16	5.13	18.74	3.75	3.12	2.50	2.08	1.87	1.56	55.19	26.23	25.48	26.23	26.23
240 C 18	5.77	25.28	5.06	4.21	3.37	2.81	2.53	2.11	61.91	35.39	35.39	35.39	35.39

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.5m													
140 C 14	3.06	7.54	1.37	1.14	0.91	0.76	0.69	0.57	9.94	10.55	8.82	10.55	10.55
140 C 15	3.26	8.85	1.61	1.34	1.07	0.89	0.80	0.67	10.61	12.39	10.67	12.39	12.39
140 C 16	3.48	10.16	1.85	1.54	1.23	1.03	0.92	0.77	11.29	14.22	12.54	14.22	14.22
140 C 18	3.90	12.62	2.30	1.91	1.53	1.28	1.15	0.96	12.62	17.84	16.26	17.84	17.84
140 C 20	4.32	13.95	2.54	2.11	1.69	1.41	1.27	1.06	13.95	21.41	20.00	21.41	21.41
170 C 14	3.38	9.51	1.73	1.44	1.15	0.96	0.86	0.72	15.59	13.31	10.41	13.31	13.31
170 C 15	3.62	11.19	2.04	1.70	1.36	1.13	1.02	0.85	16.65	15.67	12.60	15.67	15.67
170 C 16	3.86	12.87	2.34	1.95	1.56	1.30	1.17	0.98	17.72	18.02	14.79	18.02	18.02
170 C 18	4.33	16.19	2.94	2.45	1.96	1.64	1.47	1.23	19.84	22.67	19.16	22.67	22.67
170 C 20	4.79	19.48	3.54	2.95	2.36	1.97	1.77	1.48	21.94	27.27	23.54	27.27	27.27
170 C 25	5.94	26.00	4.91	4.09	3.27	2.73	2.45	2.05	26.00	38.37	34.40	38.37	38.37
200 C 14	3.92	10.12	1.84	1.53	1.23	1.02	0.92	0.77	24.93	14.17	11.67	14.17	14.17
200 C 15	4.20	12.42	2.26	1.88	1.51	1.25	1.13	0.94	26.64	17.39	14.94	17.39	17.39
200 C 16	4.48	14.71	2.67	2.23	1.78	1.49	1.34	1.11	28.37	20.59	18.20	20.59	20.59
200 C 18	5.03	19.22	3.49	2.91	2.33	1.94	1.75	1.46	31.80	26.91	24.69	26.91	26.91
200 C 20	5.58	23.69	4.31	3.59	2.87	2.39	2.15	1.79	35.21	33.17	31.16	33.17	33.17
200 C 25	6.92	34.54	6.28	5.23	4.19	3.49	3.14	2.62	43.44	48.36	47.12	48.36	48.36
240 C 15	4.81	14.38	2.62	2.18	1.74	1.45	1.31	1.09	42.82	20.14	16.92	20.14	20.14
240 C 16	5.13	17.42	3.17	2.64	2.11	1.76	1.58	1.32	45.61	24.38	21.16	24.38	24.38
240 C 18	5.77	23.42	4.26	3.55	2.84	2.37	2.13	1.77	51.16	32.78	29.58	32.78	32.78
Span = 6.0m													
140 C 14	3.06	6.97	1.16	0.97	0.77	0.65	0.58	0.48	8.35	9.76	7.66	9.04	9.76
140 C 15	3.26	8.18	1.36	1.14	0.91	0.76	0.68	0.57	8.92	11.45	9.27	10.93	11.41
140 C 16	3.48	9.38	1.56	1.30	1.04	0.87	0.78	0.65	9.48	13.14	10.90	12.82	13.14
140 C 18	3.90	10.61	1.77	1.47	1.18	0.98	0.88	0.74	10.61	16.46	14.14	16.46	16.46
140 C 20	4.32	11.72	1.95	1.63	1.30	1.09	0.98	0.81	11.72	19.75	17.40	19.75	19.75
170 C 14	3.38	8.81	1.47	1.22	0.98	0.82	0.73	0.61	13.10	12.34	8.99	11.59	12.34
170 C 15	3.62	10.37	1.73	1.44	1.15	0.96	0.86	0.72	13.99	14.51	10.89	14.01	14.51
170 C 16	3.86	11.91	1.99	1.65	1.32	1.10	0.99	0.83	14.89	16.68	12.79	16.43	16.68
170 C 18	4.33	14.97	2.50	2.08	1.66	1.39	1.25	1.04	16.67	20.96	16.57	20.96	20.96
170 C 20	4.79	17.00	2.00	2.50	1.00	1.67	1.50	1.25	18.44	25.19	20.38	25.19	25.19
170 C 25	5.94	22.69	3.78	3.15	2.52	2.10	1.89	1.58	22.69	35.42	29.82	35.42	35.42
200 C 14	3.92	9.43	1.57	1.31	1.05	0.87	0.79	0.66	20.95	13.21	10.00	13.21	13.21
200 C 15	4.20	11.55	1.93	1.60	1.28	1.07	0.96	0.80	22.39	16.17	12.80	16.17	16.17
200 C 16	4.48	13.66	2.28	1.90	1.52	1.26	1.14	0.95	23.84	19.12	15.60	19.12	19.12
200 C 18	5.03	17.82	2.97	2.48	1.98	1.65	1.49	1.24	26.72	24.95	21.17	24.95	24.95
200 C 20	5.58	21.95	3.66	3.05	2.44	2.03	1.83	1.52	29.58	30.72	26.73	30.72	30.72
200 C 25	6.92	31.95	5.33	4.44	3.55	2.96	2.66	2.22	36.50	44.73	40.49	44.73	44.73
240 C 15	4.81	13.45	2.24	1.87	1.49	1.25	1.12	0.93	35.98	18.84	14.35	18.84	18.84
240 C 16	5.13	16.26	2.71	2.26	1.81	1.51	1.35	1.13	38.33	22.76	17.95	22.76	22.76
240 C 18	5.77	21.80	3.63	3.03	2.42	2.02	1.82	1.51	42.99	30.51	25.10	30.51	30.51
240 C 20	6.39	27.28	4.55	3.79	3.03	2.53	2.27	1.89	47.63	38.20	32.23	38.20	38.20

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.5m													
170 C 14	3.38	8.21	1.26	1.05	0.84	0.70	0.63	0.53	11.16	11.50	7.90	9.90	11.50
170 C 15	3.62	9.65	1.48	1.24	0.99	0.82	0.74	0.62	11.92	13.51	9.57	11.97	13.51
170 C 16	3.86	11.09	1.71	1.42	1.14	0.95	0.85	0.71	12.69	15.52	11.24	14.05	15.52
170 C 18	4.33	13.92	2.14	1.78	1.43	1.19	1.07	0.89	14.20	19.49	14.58	18.16	18.64
170 C 20	4.79	15.71	2.42	2.01	1.61	1.34	1.21	1.01	15.71	23.41	17.93	22.28	22.67
170 C 25	5.94	19.33	2.97	2.48	1.98	1.65	1.49	1.24	19.33	32.89	26.28	32.40	32.62
200 C 14	3.92	8.83	1.36	1.13	0.91	0.75	0.68	0.57	17.85	12.36	8.71	11.42	12.36
200 C 15	4.20	10.79	1.66	1.38	1.11	0.92	0.83	0.69	19.08	15.11	11.16	14.61	15.11
200 C 16	4.48	12.75	1.96	1.63	1.31	1.09	0.98	0.82	20.32	17.85	13.60	17.79	17.85
200 C 18	5.03	16.61	2.56	2.13	1.70	1.42	1.28	1.06	22.77	23.25	18.47	23.25	23.25
200 C 20	5.58	20.43	3.14	2.62	2.10	1.75	1.57	1.31	25.21	28.61	23.34	28.61	28.61
200 C 25	6.92	29.71	4.57	3.81	3.05	2.54	2.29	1.90	31.10	41.60	35.39	41.60	41.60
240 C 15	4.81	12.63	1.94	1.62	1.30	1.08	0.97	0.81	30.66	17.68	12.39	16.94	17.68
240 C 16	5.13	15.23	2.34	1.95	1.56	1.30	1.17	0.98	32.66	21.32	15.51	21.17	21.32
240 C 18	5.77	20.37	3.13	2.61	2.09	1.74	1.57	1.31	36.63	28.52	21.69	28.52	28.52
240 C 20	6.39	25.47	3.92	3.27	2.61	2.18	1.96	1.63	40.59	35.66	27.86	35.66	35.66
240 C 25	7.94	37.89	5.83	4.86	3.89	3.24	2.91	2.43	50.19	53.04	43.11	53.04	53.04
240 C 30	9.47	49.92	7.68	6.40	5.12	4.27	3.84	3.20	59.50	69.89	58.24	69.89	69.89
Span = 7.0m													
170 C 14	3.38	7.68	1.10	0.91	0.73	0.61	0.55	0.46	9.62	10.76	7.04	8.59	10.76
170 C 15	3.62	9.03	1.29	1.07	0.86	0.72	0.64	0.54	10.28	12.64	8.52	10.38	12.64
170 C 16	3.86	10.36	1.48	1.23	0.99	0.82	0.74	0.62	10.94	14.51	10.02	12.19	14.51
170 C 18	4.33	12.25	1.75	1.46	1.17	0.97	0.87	0.73	12.25	18.20	13.00	15.77	15.68
170 C 20	4.79	13.55	1.94	1.61	1.29	1.08	0.97	0.81	13.55	21.86	15.99	19.35	19.07
170 C 25	5.94	16.67	2.38	1.98	1.59	1.32	1.19	0.99	16.67	30.69	23.46	28.20	27.51
200 C 14	3.92	8.29	1.18	0.99	0.79	0.66	0.59	0.49	15.39	11.61	7.71	9.85	11.61
200 C 15	4.20	10.12	1.45	1.21	0.96	0.80	0.72	0.60	16.45	14.17	9.87	12.60	14.17
200 C 16	4.48	11.95	1.71	1.42	1.14	0.95	0.85	0.71	17.52	16.73	12.03	15.35	16.73
200 C 18	5.03	15.55	2.22	1.85	1.48	1.23	1.11	0.93	19.63	21.77	16.35	20.80	21.77
200 C 20	5.58	19.12	2.73	2.28	1.82	1.52	1.37	1.14	21.73	26.76	20.66	26.22	26.76
200 C 25	6.92	26.82	3.83	3.19	2.55	2.13	1.92	1.60	26.82	38.88	31.38	38.88	38.88
240 C 15	4.81	11.89	1.70	1.42	1.13	0.94	0.85	0.71	26.43	16.65	10.87	14.52	16.65
240 C 16	5.13	14.32	2.05	1.70	1.36	1.14	1.02	0.85	28.16	20.05	13.60	18.14	20.05
240 C 18	5.77	19.12	2.73	2.28	1.82	1.52	1.37	1.14	31.58	26.77	19.03	25.33	26.77
240 C 20	6.39	23.88	3.41	2.84	2.27	1.90	1.71	1.42	34.00	33.43	24.46	32.47	33.43
240 C 25	7.94	35.47	5.07	4.22	3.38	2.81	2.53	2.11	43.28	49.66	37.89	49.66	49.66
240 C 30	9.47	46.70	6.67	5.56	4.45	3.71	3.34	2.78	51.31	65.38	51.25	65.38	65.38

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
200 C 16	4.48	11.24	1.50	1.25	1.00	0.83	0.75	0.62	15.26	15.74	10.78	13.41	15.74
200 C 18	5.03	14.61	1.95	1.62	1.30	1.08	0.97	0.81	17.10	20.46	14.65	18.18	20.46
200 C 20	5.58	17.95	2.39	1.99	1.60	1.33	1.20	1.00	18.93	25.14	18.52	22.93	25.14
200 C 25	6.92	23.36	3.12	2.60	2.08	1.73	1.56	1.30	23.36	36.48	28.15	34.64	36.48
240 C 15	4.81	11.23	1.50	1.25	1.00	0.83	0.75	0.62	23.03	15.72	9.65	12.58	15.72
240 C 16	5.13	13.51	1.80	1.50	1.20	1.00	0.90	0.75	24.53	18.91	12.08	15.73	18.91
240 C 18	5.77	18.01	2.40	2.00	1.60	1.33	1.20	1.00	27.51	25.22	16.92	21.98	25.22
240 C 20	6.39	22.47	2.00	2.50	1.00	1.66	1.50	1.25	30.49	31.46	21.75	28.18	31.46
240 C 25	7.94	33.33	4.44	3.70	2.96	2.47	2.22	1.85	37.70	46.67	33.72	43.42	46.67
240 C 30	9.47	43.86	5.85	4.87	3.90	3.25	2.92	2.44	44.69	61.40	45.66	58.38	61.40
Span = 8.0m													
200 C 16	4.48	10.61	1.33	1.11	0.88	0.74	0.66	0.55	13.41	14.86	9.75	11.85	14.86
200 C 18	5.03	13.78	1.72	1.44	1.15	0.96	0.86	0.72	15.03	19.30	13.26	16.07	19.30
200 C 20	5.58	16.64	2.08	1.73	1.39	1.16	1.04	0.87	16.64	23.70	16.77	20.28	23.70
200 C 25	6.92	20.53	2.57	2.14	1.71	1.43	1.28	1.07	20.53	34.36	25.51	30.68	34.36
240 C 15	4.81	10.64	1.33	1.11	0.89	0.74	0.66	0.55	20.24	14.89	8.67	11.03	14.89
240 C 16	5.13	12.78	1.60	1.33	1.07	0.89	0.80	0.67	21.56	17.89	10.85	13.79	17.89
240 C 18	5.77	17.02	2.13	1.77	1.42	1.18	1.06	0.89	24.18	23.83	15.20	19.28	23.83
240 C 20	6.39	21.22	2.65	2.21	1.77	1.47	1.33	1.11	26.79	29.70	19.55	24.73	29.70
240 C 25	7.94	31.44	3.93	3.27	2.62	2.18	1.96	1.64	33.14	44.01	30.34	38.15	44.01
240 C 30	9.47	39.28	4.91	4.09	3.27	2.73	2.46	2.05	39.28	57.88	41.12	51.37	57.88
Span = 8.5m													
240 C 18	5.77	16.13	1.90	1.58	1.27	1.05	0.95	0.79	21.42	22.58	13.79	17.08	22.58
240 C 20	6.39	20.09	2.36	1.97	1.58	1.31	1.18	0.98	23.73	28.13	17.74	21.92	28.13
240 C 25	7.94	29.35	3.45	2.88	2.30	1.92	1.73	1.44	29.35	41.64	27.55	33.86	41.64
240 C 30	9.47	34.80	4.09	3.41	2.73	2.27	2.05	1.71	34.80	54.73	37.37	45.65	54.73
300 C 20	8.02	22.36	2.63	2.19	1.75	1.46	1.32	1.10	47.21	31.30	21.76	29.42	31.30
300 C 25	10.02	37.80	4.45	3.71	2.96	2.47	2.22	1.85	58.56	52.92	39.86	52.92	52.92
300 C 30	11.97	52.84	6.22	5.18	4.14	3.45	3.11	2.59	69.64	73.97	57.78	73.97	73.97
Span = 9.0m													
240 C 18	5.77	15.33	1.70	1.42	1.14	0.95	0.85	0.71	19.11	21.46	12.61	15.27	20.33
240 C 20	6.39	19.08	2.12	1.77	1.41	1.18	1.06	0.88	21.17	26.71	16.23	19.61	26.04
240 C 25	7.94	26.18	2.91	2.42	1.94	1.62	1.45	1.21	26.18	39.51	25.22	30.32	39.51
240 C 30	9.47	31.04	3.45	2.87	2.30	1.92	1.72	1.44	31.04	51.91	34.23	40.93	51.91
300 C 20	8.02	21.32	2.37	1.97	1.58	1.32	1.18	0.99	42.11	29.84	19.69	26.12	29.84
300 C 25	10.02	35.96	3.00	3.33	2.66	2.22	1.00	1.66	52.24	50.34	36.09	47.65	50.34
300 C 30	11.97	50.21	5.58	4.65	3.72	3.10	2.79	2.32	62.12	70.30	52.35	68.75	70.30

CEE SECTIONS - BUTTED DOUBLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 9.5m													
240 C 20	6.39	18.16	1.91	1.59	1.27	1.06	0.96	0.80	19.00	25.43	14.95	17.69	23.09
240 C 25	7.94	23.50	2.47	2.06	1.65	1.37	1.24	1.03	23.50	37.59	23.25	27.37	35.46
240 C 30	9.47	27.86	2.93	2.44	1.95	1.63	1.47	1.22	27.86	49.36	31.57	37.00	47.53
300 C 20	8.02	20.37	2.14	1.79	1.43	1.19	1.07	0.89	37.80	28.51	17.96	23.37	28.51
300 C 25	10.02	34.28	3.61	3.01	2.41	2.00	1.80	1.50	46.88	47.00	32.93	42.65	48.00
300 C 30	11.97	47.83	5.04	4.20	3.36	2.80	2.52	2.10	55.75	66.97	47.79	61.58	66.97
Span = 10.0m													
240 C 20	6.39	17.15	1.71	1.43	1.14	0.95	0.86	0.71	17.15	24.26	13.85	16.07	20.58
240 C 25	7.94	21.21	2.12	1.77	1.41	1.18	1.06	0.88	21.21	35.84	21.55	24.90	31.64
240 C 30	9.47	25.14	2.51	2.09	1.68	1.40	1.26	1.05	25.14	47.05	29.28	33.68	42.45
300 C 20	8.02	19.49	1.95	1.62	1.30	1.08	0.97	0.81	34.11	27.29	16.49	21.04	27.29
300 C 25	10.02	32.75	3.28	2.73	2.18	1.82	1.64	1.36	42.31	45.86	30.25	38.44	45.86
300 C 30	11.97	45.67	4.57	3.81	3.04	2.54	2.28	1.90	50.31	63.93	43.93	55.54	63.93
Span = 10.5m													
300 C 20	8.02	18.69	1.78	1.48	1.19	0.99	0.89	0.74	30.94	26.17	15.23	19.08	25.90
300 C 25	10.02	31.36	2.99	2.49	1.99	1.66	1.49	1.24	38.38	43.90	27.96	34.86	43.90
300 C 30	11.97	43.68	4.16	3.47	2.77	2.31	2.08	1.73	45.64	61.16	40.62	50.42	61.16
Span = 11.0m													
300 C 20	8.02	17.95	1.63	1.36	1.09	0.91	0.82	0.68	28.19	25.13	14.14	17.40	23.42
300 C 25	10.02	30.07	2.73	2.28	1.82	1.52	1.37	1.14	34.97	42.10	25.98	31.81	42.10
300 C 30	11.97	41.58	3.78	3.15	2.52	2.10	1.89	1.58	41.58	58.61	37.76	46.04	58.61
Span = 11.5m													
300 C 20	8.02	17.26	1.50	1.25	1.00	0.83	0.75	0.63	25.79	24.17	13.20	15.95	21.23
300 C 25	10.02	28.88	2.51	2.09	1.67	1.40	1.26	1.05	31.99	40.44	24.25	29.19	38.64
300 C 30	11.97	38.05	3.31	2.76	2.21	1.84	1.65	1.38	38.05	56.27	35.26	42.27	55.63
Span = 12.0m													
300 C 25	10.02	27.79	2.32	1.93	1.54	1.29	1.16	0.96	29.38	38.90	22.73	26.91	35.15
300 C 30	11.97	34.94	2.91	2.43	1.94	1.62	1.46	1.21	34.94	54.10	33.07	39.00	50.63

CEE SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 3.0m													
140 C 14	3.06	10.38	3.46	2.88	2.31	1.92	1.73	1.44	19.32	14.54	12.93	14.54	14.54
140 C 15	3.26	12.54	4.18	3.48	2.79	2.32	2.09	1.74	20.63	17.55	15.63	17.55	17.55
140 C 16	3.48	14.68	4.89	4.08	3.26	2.72	2.45	2.04	21.95	20.56	18.32	20.56	20.56
140 C 18	3.90	18.92	6.31	5.26	4.20	3.50	3.15	2.63	24.55	26.49	23.66	26.49	26.49
140 C 20	4.32	23.11	7.70	6.42	5.14	4.28	3.85	3.21	27.13	32.36	28.99	32.36	32.36
Span = 3.5m													
140 C 14	3.06	8.90	2.54	2.12	1.70	1.41	1.27	1.06	14.20	12.46	9.69	12.46	12.46
140 C 15	3.26	10.74	3.07	2.56	2.05	1.71	1.53	1.28	15.16	15.04	11.72	15.04	15.04
140 C 16	3.48	12.59	3.60	2.00	2.40	1.00	1.80	1.50	16.12	17.62	13.75	17.62	17.62
140 C 18	3.90	16.22	4.63	3.86	3.09	2.57	2.32	1.93	18.03	22.70	17.79	22.70	22.70
140 C 20	4.32	19.81	5.66	4.72	3.77	3.14	2.83	2.36	19.93	27.73	21.82	27.73	27.73
Span = 4.0m													
140 C 14	3.06	7.79	1.95	1.62	1.30	1.08	0.97	0.81	10.87	10.90	7.62	10.90	10.90
140 C 15	3.26	9.40	2.35	1.96	1.57	1.31	1.18	0.98	11.60	13.16	9.22	13.16	13.16
140 C 16	3.48	11.01	2.75	2.29	1.84	1.53	1.38	1.15	12.35	15.42	10.83	15.42	15.42
140 C 18	3.90	13.81	3.45	2.88	2.30	1.92	1.73	1.44	13.81	19.87	14.03	19.87	19.87
140 C 20	4.32	15.26	3.82	3.18	2.54	2.12	1.91	1.59	15.26	24.27	17.23	24.27	24.27
170 C 14	3.38	10.06	2.51	2.09	1.68	1.40	1.26	1.05	17.05	14.08	9.08	14.08	14.08
170 C 15	3.62	12.15	3.04	2.53	2.02	1.69	1.52	1.27	18.21	17.01	10.98	17.01	17.01
170 C 16	3.86	14.24	3.56	2.97	2.37	1.98	1.78	1.48	19.38	19.93	12.88	19.93	19.93
170 C 18	4.33	18.36	4.59	3.83	3.06	2.55	2.30	1.91	21.69	25.71	16.67	25.71	25.71
170 C 20	4.79	22.45	5.61	4.68	3.74	3.12	2.81	2.34	23.00	31.42	20.46	31.42	31.42
170 C 25	5.94	29.53	7.38	6.15	4.92	4.10	3.69	3.08	29.53	45.25	29.81	45.25	45.25
200 C 14	3.92	10.29	2.57	2.14	1.72	1.43	1.29	1.07	27.26	14.41	10.31	14.41	14.41
200 C 15	4.20	13.17	3.29	2.74	2.19	1.83	1.65	1.37	29.14	18.43	13.19	18.43	18.43
Span = 4.5m													
140 C 14	3.06	6.92	1.54	1.28	1.03	0.85	0.77	0.64	8.59	9.69	6.23	9.15	9.69
140 C 15	3.26	8.36	1.86	1.55	1.24	1.03	0.93	0.77	9.17	11.70	7.55	11.05	11.70
140 C 16	3.48	9.75	2.17	1.81	1.45	1.20	1.08	0.90	9.75	13.70	8.86	12.95	13.70
140 C 18	3.90	10.91	2.42	2.02	1.62	1.35	1.21	1.01	10.91	17.66	11.49	16.70	17.66
140 C 20	4.32	12.06	2.68	2.23	1.79	1.49	1.34	1.12	12.06	21.57	14.13	20.41	21.57
170 C 14	3.38	8.94	1.99	1.66	1.32	1.10	0.99	0.83	13.47	12.51	7.37	11.76	12.51
170 C 15	3.62	10.80	2.40	1.00	1.60	1.33	1.20	1.00	14.39	15.12	8.91	14.20	15.12
170 C 16	3.86	12.65	2.81	2.34	1.87	1.56	1.41	1.17	15.31	17.72	10.47	16.63	17.72
170 C 18	4.33	16.32	3.63	3.02	2.42	2.01	1.81	1.51	17.14	22.85	13.56	21.43	22.85
170 C 20	4.79	18.96	4.21	3.51	2.81	2.34	2.11	1.76	18.96	27.93	16.65	26.20	27.93
170 C 25	5.94	23.33	5.18	4.32	3.46	2.88	2.59	2.16	23.33	40.22	24.33	37.73	40.22
200 C 14	3.92	9.15	2.03	1.69	1.36	1.13	1.02	0.85	21.54	12.81	8.28	12.81	12.81
200 C 15	4.20	11.70	2.60	2.17	1.73	1.44	1.30	1.08	23.02	16.38	10.59	16.38	16.38
200 C 16	4.48	14.25	3.17	2.64	2.11	1.76	1.58	1.32	24.52	19.94	12.90	19.94	19.94

CEE SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 5.0m													
140 C 14	3.06	6.23	1.25	1.04	0.83	0.69	0.62	0.52	6.96	8.72	5.25	7.44	8.72
140 C 15	3.26	7.43	1.49	1.24	0.99	0.83	0.74	0.62	7.43	10.53	6.36	8.99	10.53
140 C 16	3.48	7.90	1.58	1.32	1.05	0.88	0.79	0.66	7.90	12.33	7.47	10.54	12.33
140 C 18	3.90	8.84	1.77	1.47	1.18	0.98	0.88	0.74	8.84	15.89	9.70	13.60	15.89
140 C 20	4.32	9.77	1.95	1.63	1.30	1.09	0.98	0.81	9.77	19.41	11.93	16.65	19.41
170 C 14	3.38	8.04	1.61	1.34	1.07	0.89	0.80	0.67	10.91	11.26	6.17	9.55	11.26
170 C 15	3.62	9.72	1.94	1.62	1.30	1.08	0.97	0.81	11.65	13.61	7.47	11.54	13.61
170 C 16	3.86	11.39	2.28	1.90	1.52	1.27	1.14	0.95	12.40	15.94	8.77	13.52	15.94
170 C 18	4.33	13.88	2.78	2.31	1.85	1.54	1.39	1.16	13.88	20.56	11.37	17.44	20.56
170 C 20	4.79	15.36	3.07	2.56	2.05	1.71	1.54	1.28	15.36	25.14	13.97	21.33	25.14
170 C 25	5.94	18.90	3.78	3.15	2.52	2.10	1.89	1.57	18.90	36.20	20.45	30.81	36.20
200 C 14	3.92	8.24	1.65	1.37	1.10	0.92	0.82	0.69	17.45	11.53	6.86	11.01	11.53
200 C 15	4.20	10.53	2.11	1.76	1.40	1.17	1.05	0.88	18.65	14.75	8.78	14.07	14.75
200 C 16	4.48	12.82	2.56	2.14	1.71	1.42	1.28	1.07	19.86	17.95	10.70	17.12	17.95
200 C 18	5.03	17.35	3.47	2.89	2.31	1.93	1.74	1.45	22.26	24.29	14.52	23.15	24.29
200 C 20	5.58	21.84	4.37	3.64	2.91	2.43	2.18	1.82	24.64	30.58	18.33	29.12	30.58
200 C 25	6.92	30.41	6.08	5.07	4.05	3.38	3.04	2.53	30.41	45.86	27.77	43.63	45.86
240 C 15	4.81	12.30	2.46	2.05	1.64	1.37	1.23	1.03	29.97	17.23	9.84	16.43	17.23
240 C 16	5.13	15.38	3.08	2.56	2.05	1.71	1.54	1.28	31.93	21.54	12.31	20.52	21.54
240 C 18	5.77	21.48	4.30	3.58	2.86	2.39	2.15	1.79	35.81	30.08	17.21	28.61	30.08
Span = 5.5m													
170 C 14	3.38	7.31	1.33	1.11	0.89	0.74	0.66	0.55	9.02	10.24	5.29	7.89	10.24
170 C 15	3.62	8.84	1.61	1.34	1.07	0.89	0.80	0.67	9.63	12.37	6.40	9.53	12.37
170 C 16	3.86	10.25	1.86	1.55	1.24	1.04	0.93	0.78	10.25	14.49	7.52	11.17	14.49
170 C 18	4.33	11.47	2.09	1.74	1.39	1.16	1.04	0.87	11.47	18.69	9.76	14.42	18.69
170 C 20	4.79	12.69	2.31	1.92	1.54	1.28	1.15	0.96	12.69	22.85	12.00	17.66	22.85
170 C 25	5.94	15.62	2.84	2.37	1.89	1.58	1.42	1.18	15.62	32.91	17.60	25.56	32.91
200 C 14	3.92	7.49	1.36	1.13	0.91	0.76	0.68	0.57	14.42	10.48	5.82	9.14	10.48
200 C 15	4.20	9.58	1.74	1.45	1.16	0.97	0.87	0.73	15.41	13.41	7.46	11.68	13.41
200 C 16	4.48	11.66	2.12	1.77	1.41	1.18	1.06	0.88	16.41	16.32	9.09	14.21	16.32
200 C 18	5.03	15.78	2.87	2.39	1.91	1.59	1.43	1.20	18.39	22.09	12.35	19.23	22.09
200 C 20	5.58	19.86	3.61	3.01	2.41	2.01	1.81	1.50	20.37	27.80	15.60	24.20	27.80
200 C 25	6.92	25.13	4.57	3.81	3.05	2.54	2.28	1.90	25.13	41.69	23.67	36.31	41.69
240 C 15	4.81	11.19	2.03	1.69	1.36	1.13	1.02	0.85	24.77	15.66	8.27	13.65	15.66
240 C 16	5.13	13.98	2.54	2.12	1.70	1.41	1.27	1.06	26.39	19.58	10.34	17.06	19.58
240 C 18	5.77	19.53	3.55	2.96	2.37	1.97	1.78	1.48	29.60	27.34	14.47	23.79	27.34
240 C 20	6.39	25.03	4.55	3.79	3.03	2.53	2.28	1.90	32.79	35.04	18.59	30.46	35.04

CEE SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads							Ultimate U.D.L. in kN / span			
			Allowable loading in kN/sq m						Deflection	Positive pressure	Suction - metal Cladding		
			Rail Centres in millimetres						Span/ 150		Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 6.0m													
170 C 14	3.38	6.70	1.12	0.93	0.74	0.62	0.56	0.47	7.58	9.39	4.62	6.63	9.39
170 C 15	3.62	8.09	1.35	1.12	0.90	0.75	0.67	0.56	8.09	11.34	5.60	8.01	11.34
170 C 16	3.86	8.61	1.44	1.20	0.96	0.80	0.72	0.60	8.61	13.29	6.58	9.39	13.29
170 C 18	4.33	9.64	1.61	1.34	1.07	0.89	0.80	0.67	9.64	17.14	8.54	12.14	17.14
170 C 20	4.79	10.67	1.78	1.48	1.19	0.99	0.89	0.74	10.67	20.95	10.51	14.87	20.95
170 C 25	5.94	13.12	2.19	1.82	1.46	1.22	1.09	0.91	13.12	30.16	15.42	21.58	30.16
200 C 14	3.92	6.86	1.14	0.95	0.76	0.64	0.57	0.48	12.12	9.61	5.05	7.67	9.61
200 C 15	4.20	8.78	1.46	1.22	0.98	0.81	0.73	0.61	12.95	12.29	6.47	9.81	12.29
200 C 16	4.48	10.68	1.78	1.48	1.19	0.99	0.89	0.74	13.79	14.96	7.89	11.94	14.96
200 C 18	5.03	14.46	2.41	2.01	1.61	1.34	1.21	1.00	15.46	20.25	10.71	16.16	20.25
200 C 20	5.58	17.11	2.85	2.38	1.90	1.58	1.43	1.19	17.11	25.48	13.54	20.35	25.48
200 C 25	6.92	21.12	3.52	2.93	2.35	1.96	1.76	1.47	21.12	38.22	20.57	30.59	38.22
240 C 15	4.81	10.25	1.71	1.42	1.14	0.95	0.85	0.71	20.81	14.36	7.10	11.44	14.36
240 C 16	5.13	12.82	2.14	1.78	1.42	1.19	1.07	0.89	22.17	17.95	8.88	14.29	17.95
240 C 18	5.77	17.90	2.98	2.49	1.99	1.66	1.49	1.24	24.87	25.06	12.43	19.93	25.06
240 C 20	6.39	22.95	3.82	3.19	2.55	2.12	1.91	1.59	27.56	32.12	15.98	25.53	32.12
240 C 25	7.94	34.08	5.68	4.73	3.79	3.16	2.84	2.37	34.08	49.36	24.76	39.18	49.36
Span = 6.5m													
200 C 16	4.48	9.86	1.52	1.26	1.01	0.84	0.76	0.63	11.75	13.81	6.95	10.17	13.39
200 C 18	5.03	13.17	2.03	1.69	1.35	1.13	1.01	0.84	13.17	18.69	9.45	13.77	18.09
200 C 20	5.58	14.58	2.24	1.87	1.50	1.25	1.12	0.93	14.58	23.52	11.95	17.35	22.75
200 C 25	6.92	17.99	2.77	2.31	1.85	1.54	1.38	1.15	17.99	35.28	18.17	26.11	34.03
240 C 15	4.81	9.46	1.46	1.21	0.97	0.81	0.73	0.61	17.73	13.25	6.20	9.68	12.70
240 C 16	5.13	11.83	1.82	1.52	1.21	1.01	0.91	0.76	18.89	16.57	7.76	12.10	15.87
240 C 18	5.77	16.53	2.54	2.12	1.69	1.41	1.27	1.06	21.19	23.14	10.87	16.89	22.13
240 C 20	6.39	21.18	3.26	2.72	2.17	1.81	1.63	1.36	23.48	29.65	13.97	21.63	28.32
240 C 25	7.94	29.04	4.47	3.72	2.98	2.48	2.23	1.86	29.04	45.56	21.68	33.25	43.37
240 C 30	9.47	34.42	5.30	4.41	3.53	2.94	2.65	2.21	34.42	60.98	29.37	44.58	57.88
Span = 7.0m													
200 C 16	4.48	9.16	1.31	1.09	0.87	0.73	0.65	0.55	10.13	12.82	6.21	8.77	11.70
200 C 18	5.03	11.36	1.62	1.35	1.08	0.90	0.81	0.68	11.36	17.35	8.45	11.88	15.81
200 C 20	5.58	12.57	1.80	1.50	1.20	1.00	0.90	0.75	12.57	21.84	10.69	14.98	19.88
200 C 25	6.92	15.51	2.22	1.85	1.48	1.23	1.11	0.92	15.51	32.76	16.26	22.60	29.75
240 C 16	5.13	10.99	1.57	1.31	1.05	0.87	0.78	0.65	16.29	15.38	6.88	10.37	13.95
240 C 18	5.77	15.35	2.19	1.83	1.46	1.22	1.10	0.91	18.27	21.48	9.64	14.48	19.46
240 C 20	6.39	19.67	2.81	2.34	1.87	1.56	1.40	1.17	20.25	27.54	12.39	18.56	24.90
240 C 25	7.94	25.04	3.58	2.98	2.38	1.99	1.79	1.49	25.04	42.30	19.25	28.55	38.12
240 C 30	9.47	29.68	4.24	3.53	2.83	2.36	2.12	1.77	29.68	56.63	26.10	38.34	50.88

CEE SECTIONS - BUTTED SINGLE SPAN

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Working Loads: Allowable loading in kN/sq m, Rail Centres in millimetres						Deflection Span/150	Ultimate U.D.L. in kN / span: Positive pressure	Suction - metal Cladding, Number of anti sag rods		
			1000	1200	1500	1800	2000	2400			0	1	2
Span = 7.5m													
240 C 18	5.77	14.32	1.91	1.59	1.27	1.06	0.95	0.80	15.92	20.05	8.65	12.56	17.07
240 C 20	6.39	17.64	2.35	1.96	1.57	1.31	1.18	0.98	17.64	25.70	11.13	16.10	21.85
240 C 25	7.94	21.81	2.91	2.42	1.94	1.62	1.45	1.21	21.81	39.48	17.30	24.81	33.46
240 C 30	9.47	25.85	3.45	2.87	2.30	1.92	1.72	1.44	25.85	52.85	23.47	33.37	44.67
Span = 8.0m													
240 C 18	5.77	13.43	1.68	1.40	1.12	0.93	0.84	0.70	13.99	18.80	7.84	11.02	14.98
240 C 20	6.39	15.50	1.94	1.61	1.29	1.08	0.97	0.81	15.50	24.09	10.09	14.13	19.17
240 C 25	7.94	19.17	2.40	1.00	1.60	1.33	1.20	1.00	19.17	37.02	15.69	21.80	29.37
240 C 30	9.47	22.72	2.84	2.37	1.89	1.58	1.42	1.18	22.72	49.55	21.31	29.36	39.25
Span = 8.5m													
240 C 18	5.77	12.39	1.46	1.21	0.97	0.81	0.73	0.61	12.39	17.69	7.17	9.76	13.17
240 C 20	6.39	13.73	1.62	1.35	1.08	0.90	0.81	0.67	13.73	22.68	9.23	12.53	16.86
240 C 25	7.94	16.98	1.00	1.66	1.33	1.11	1.00	0.83	16.98	34.84	14.36	19.35	25.85
240 C 30	9.47	20.13	2.37	1.97	1.58	1.32	1.18	0.99	20.13	46.63	19.51	26.09	34.57
300 C 20	8.02	17.05	2.01	1.67	1.34	1.11	1.00	0.84	27.31	23.87	10.94	16.81	22.35
300 C 25	10.02	31.10	3.66	3.05	2.44	2.03	1.83	1.52	33.88	43.54	20.09	30.65	40.65
300 C 30	11.97	40.29	4.74	3.95	3.16	2.63	2.37	1.97	40.29	62.74	29.18	44.18	58.41
Span = 9.0m													
240 C 20	6.39	12.25	1.36	1.13	0.91	0.76	0.68	0.57	12.25	21.42	8.50	11.21	14.88
240 C 25	7.94	15.15	1.68	1.40	1.12	0.93	0.84	0.70	15.15	32.90	13.24	17.33	22.83
240 C 30	9.47	17.95	1.99	1.66	1.33	1.11	1.00	0.83	17.95	44.04	17.99	23.39	30.57
300 C 20	8.02	16.11	1.79	1.49	1.19	0.99	0.89	0.75	24.36	22.55	9.98	14.93	20.18
300 C 25	10.02	29.37	3.26	2.72	2.18	1.81	1.63	1.36	30.22	41.12	18.33	27.23	36.68
300 C 30	11.97	35.93	3.99	3.33	2.66	2.22	1.00	1.66	35.93	59.25	26.64	39.29	52.71
Span = 9.5m													
300 C 20	8.02	15.26	1.61	1.34	1.07	0.89	0.80	0.67	21.86	21.36	9.17	13.35	18.19
300 C 25	10.02	27.12	2.85	2.38	1.90	1.59	1.43	1.19	27.12	38.96	16.85	24.37	33.08
300 C 30	11.97	32.25	3.39	2.83	2.26	1.89	1.70	1.41	32.25	56.14	24.51	35.19	57.53
Span = 10.0m													
300 C 20	8.02	14.49	1.45	1.21	0.97	0.81	0.72	0.60	19.73	20.29	8.48	12.03	16.40
300 C 25	10.02	24.48	2.45	2.04	1.63	1.36	1.22	1.02	24.48	37.01	15.59	21.96	29.82
300 C 30	11.97	29.11	2.91	2.43	1.94	1.62	1.46	1.21	29.11	53.33	22.68	31.74	42.87
Span = 10.5m													
300 C 20	8.02	13.80	1.31	1.10	0.88	0.73	0.66	0.55	17.90	19.33	7.89	10.90	14.80
300 C 25	10.02	22.20	2.11	1.76	1.41	1.17	1.06	0.88	22.20	35.25	14.50	19.92	26.92
300 C 30	11.97	26.40	2.51	2.10	1.68	1.40	1.26	1.05	26.40	50.79	21.10	28.81	38.72
Span = 11.0m													
300 C 20	8.02	13.18	1.20	1.00	0.80	0.67	0.60	0.50	16.31	18.45	7.37	9.94	13.38
300 C 25	10.02	20.23	1.84	1.53	1.23	1.02	0.92	0.77	20.23	33.64	13.55	18.18	24.35
300 C 30	11.97	24.05	2.19	1.82	1.46	1.21	1.09	0.91	24.05	48.48	19.73	26.31	35.04

EAVES BEAMS LOAD TABLES

EAVES BEAMS - SINGLE SPAN - WIND LOAD = 1.0KN/M2

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Deflection Span/200	Ultimate kN / span	
				Gravity Load	Uplift Load
Span = 3.5m					
200 EB 16	5.10	11.23	34.67	17.97	17.97
200 EB 20	6.35	23.01	42.90	36.82	35.32
Span = 4.0m					
200 EB 16	5.10	9.22	26.54	14.76	14.76
200 EB 20	6.35	19.24	32.85	30.78	27.78
Span = 4.5m					
200 EB 16	5.10	7.59	20.97	12.14	12.14
200 EB 20	6.35	16.20	25.95	25.92	21.50
Span = 5.0m					
200 EB 16	5.10	6.21	16.99	9.94	9.91
200 EB 20	6.35	13.67	21.02	21.88	16.35
Span = 5.5m					
200 EB 16	5.10	5.03	14.04	8.05	7.36
200 EB 20	6.35	11.52	17.37	18.43	12.27
Span = 6.0m					
200 EB 20	6.35	9.64	14.60	15.43	9.12
200 EB 25	7.90	17.37	17.98	27.79	14.95
240 EB 25	9.08	22.49	29.73	35.98	22.63
Span = 6.5m					
200 EB 20	6.35	11.43	12.44	18.29	15.65
200 EB 25	7.90	15.32	15.32	30.64	24.45
240 EB 25	9.08	24.05	25.33	38.48	33.31
Span = 7.0m					
200 EB 20	6.35	10.21	10.73	16.33	13.11
200 EB 25	7.90	13.21	13.21	27.64	20.62
240 EB 25	9.08	21.80	21.84	34.88	28.76
Span = 7.5m					
200 EB 25	7.90	11.51	11.51	24.99	17.28
240 EB 25	9.08	19.03	19.03	31.70	24.66
240 EB 30	10.84	22.52	22.52	46.29	35.33
Span = 8.0m					
200 EB 25	7.90	10.11	10.11	22.62	14.41
240 EB 25	9.08	16.72	16.72	28.87	21.02
240 EB 30	10.84	19.79	19.79	42.42	30.29
Span = 8.5m					
240 EB 25	9.08	14.81	14.81	26.31	17.84
240 EB 30	10.84	17.53	17.53	38.94	25.87
Span = 9.0m					
240 EB 25	9.08	13.21	13.21	23.99	15.09
240 EB 30	10.84	15.64	15.64	35.79	22.04
300 EB 30	11.97	26.62	26.62	48.60	38.34

Table based on one row of supports to 6m, two rows up to 10m and 3 rows above

EAVES BEAMS - SINGLE SPAN - WIND LOAD = 1.0KN/M2

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Deflection Span/200	Ultimate kN / span	
				Gravity Load	Uplift Load
Span = 9.5m					
240 EB 30	10.84	14.03	14.03	32.92	18.77
300 EB 30	11.97	23.89	23.89	44.97	33.55
Span = 10.0m					
240 EB 30	10.84	12.67	12.67	30.29	15.99
300 EB 30	11.97	21.56	21.56	41.64	29.29
Span = 10.5m					
300 EB 30	11.97	19.56	19.56	43.65	38.30
Span = 11.0m					
300 EB 30	11.97	17.82	17.82	41.06	34.89
Span = 11.5m					
300 EB 30	11.97	16.30	16.30	38.67	31.71
Span = 12.0m					
300 EB 30	11.97	14.97	14.97	36.45	28.75
Span = 12.5m					
300 EB 30	11.97	13.80	13.80	34.38	26.02

Table based on one row of supports to 6m, two rows up to 10m and 3 rows above

EAVES BEAMS - SINGLE SPAN - WIND LOAD = 1.5KN/M2

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Deflection Span/200	Ultimate kN / span	
				Gravity Load	Uplift Load
Span = 3.5m					
200 EB 16	5.10	10.10	34.67	16.16	16.16
200 EB 20	6.35	21.34	42.90	34.14	32.75
Span = 4.0m					
200 EB 16	5.10	7.93	26.54	12.68	12.68
200 EB 20	6.35	17.33	32.85	27.73	25.02
Span = 4.5m					
200 EB 16	5.10	6.13	20.97	9.81	9.81
200 EB 20	6.35	14.05	25.95	22.48	18.65
Span = 5.0m					
200 EB 16	5.10	4.59	16.99	7.35	7.33
200 EB 20	6.35	11.29	21.02	18.06	13.50
Span = 5.5m					
200 EB 16	5.10	3.25	14.04	5.20	4.75
200 EB 20	6.35	8.89	17.37	14.23	9.47
Span = 6.0m					
200 EB 20	6.35	6.78	14.60	10.85	6.41
200 EB 25	7.90	13.84	17.98	22.15	11.91
240 EB 25	9.08	18.76	29.73	30.02	18.88

EAVES BEAMS - SINGLE SPAN - WIND LOAD = 1.5KN/M2

Section reference	Weight (kg/m)	Total Working U.D.L. (kN)	Deflection Span/200	Ultimate kN / span	
				Gravity Load	Uplift Load
Span = 6.0m					
200 EB 20	6.35	6.78	14.60	10.85	6.41
200 EB 25	7.90	13.84	17.98	22.15	11.91
240 EB 25	9.08	18.76	29.73	30.02	18.88
Span = 6.5m					
200 EB 20	6.35	10.05	12.44	16.08	8.47
200 EB 25	7.90	15.32	15.32	27.92	13.25
240 EB 25	9.08	22.26	25.33	35.61	19.97
Span = 7.0m					
200 EB 20	6.35	8.72	10.73	13.95	6.59
200 EB 25	7.90	13.21	13.21	24.72	10.40
240 EB 25	9.08	19.87	21.84	31.79	15.91
Span = 7.5m					
200 EB 25	7.90	11.51	11.51	21.86	8.20
240 EB 25	9.08	17.74	19.03	28.39	12.72
240 EB 30	10.84	22.52	22.52	42.49	18.61
Span = 8.0m					
200 EB 25	7.90	10.11	10.11	19.28	6.49
240 EB 25	9.08	15.83	16.72	25.33	10.22
240 EB 30	10.84	19.79	19.79	38.36	15.11
Span = 8.5m					
240 EB 25	9.08	14.10	14.81	22.56	8.23
240 EB 30	10.84	17.53	17.53	34.63	12.33
Span = 9.0m					
240 EB 25	9.08	12.51	13.21	20.01	6.64
240 EB 30	10.84	15.64	15.64	31.23	10.10
300 EB 30	11.97	26.62	26.62	43.64	20.18
Span = 9.5m					
240 EB 30	10.84	14.03	14.03	28.11	8.29
300 EB 30	11.97	23.89	23.89	39.73	16.93
Span = 10.0m					
240 EB 30	10.84	12.67	12.67	25.22	6.82
300 EB 30	11.97	21.56	21.56	36.13	14.25
Span = 10.5m					
300 EB 30	11.97	19.56	19.56	40.39	14.80
Span = 11.0m					
300 EB 30	11.97	17.82	17.82	37.65	12.87
Span = 11.5m					
300 EB 30	11.97	16.30	16.30	35.10	11.23
Span = 12.0m					
300 EB 30	11.97	14.97	14.97	32.73	9.84
Span = 12.5m					
300 EB 30	11.97	13.80	13.80	30.51	8.64

Table based on one row of supports to 6m, two rows up to 10m and 3 rows above

PURLINS, RAILS & EAVES BEAMS
MEZZANINE FLOOR SECTIONS LOAD TABLES

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
14014	1	600	Working load (kg/sq m)	329	207	139	97	71	53					
		400	Working load (kg/sq m)	493	310	208	146	106	80					
		-	Ultimate Load (kN/Span)	14.45	12.39	10.84	9.64	8.67	7.88					
	2	600	Working load (kg/sq m)	206	171	139	97	71	53					
		400	Working load (kg/sq m)	329	276	208	146	106	80					
		-	Ultimate Load (kN/Span)	6.96	6.96	6.96	6.96	6.96	6.96					
14015	1	600	Working load (kg/sq m)	351	221	148	104	76	57					
		400	Working load (kg/sq m)	526	331	222	156	114	85					
		-	Ultimate Load (kN/Span)	16.06	13.77	12.05	10.71	9.64	8.76					
	2	600	Working load (kg/sq m)	240	200	148	104	76	57					
		400	Working load (kg/sq m)	380	320	222	156	114	85					
		-	Ultimate Load (kN/Span)	7.93	7.93	7.93	7.93	7.93	7.93					
14016	1	600	Working load (kg/sq m)	373	235	157	111	81	61					
		400	Working load (kg/sq m)	560	353	236	166	121	91					
		-	Ultimate Load (kN/Span)	17.67	15.15	13.26	11.78	10.60	9.64					
	2	600	Working load (kg/sq m)	280	234	157	111	81	61					
		400	Working load (kg/sq m)	440	353	236	166	121	91					
		-	Ultimate Load (kN/Span)	9.05	9.05	9.05	9.05	9.05	9.05					
14018	1	600	Working load (kg/sq m)	417	263	176	124	90	68					
		400	Working load (kg/sq m)	626	394	264	186	135	102					
		-	Ultimate Load (kN/Span)	20.8	17.83	15.60	13.87	12.48	11.34					
	2	600	Working load (kg/sq m)	367	263	176	124	90	68					
		400	Working load (kg/sq m)	571	394	264	186	135	102					
		-	Ultimate Load (kN/Span)	11.51	11.51	11.51	11.51	11.51	11.34					
14020	1	600	Working load (kg/sq m)	461	291	195	137	100	75					
		400	Working load (kg/sq m)	692	436	292	205	149	112					
		-	Ultimate Load (kN/Span)	23.78	20.39	17.84	15.86	14.27	12.97					
	2	600	Working load (kg/sq m)	461	291	195	137	100	75					
		400	Working load (kg/sq m)	692	436	292	205	149	112					
		-	Ultimate Load (kN/Span)	14.37	14.37	14.37	14.37	14.27	12.97					
17014	1	600	Working load (kg/sq m)	515	325	217	153	111	84					
		400	Working load (kg/sq m)	773	487	326	229	167	125					
		-	Ultimate Load (kN/Span)	18.03	15.46	13.52	12.02	10.82	9.84					
	2	600	Working load (kg/sq m)	198	164	138	118	102	84					
		400	Working load (kg/sq m)	317	266	228	198	167	125					
		-	Ultimate Load (kN/Span)	6.73	6.73	6.73	6.73	6.73	6.73					
17015	1	600	Working load (kg/sq m)	551	347	232	163	119	89					
		400	Working load (kg/sq m)	826	520	348	245	178	134					
		-	Ultimate Load (kN/Span)	20.06	17.20	15.05	13.38	12.04	10.94					
	2	600	Working load (kg/sq m)	232	193	163	141	119	89					
		400	Working load (kg/sq m)	368	309	266	232	178	134					
		-	Ultimate Load (kN/Span)	7.69	7.69	7.69	7.69	7.69	7.69					

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
17016	1	600	Working load (kg/sq m)	586	369	247	174	127	95					
		400	Working load (kg/sq m)	879	553	371	260	190	143					
		-	Ultimate Load (kN/Span)	22.10	18.94	16.57	14.73	13.26	12.05					
	2	600	Working load (kg/sq m)	271	226	193	167	127	95					
		400	Working load (kg/sq m)	427	360	310	260	190	143					
		-	Ultimate Load (kN/Span)	8.80	8.80	8.80	8.80	8.80	8.80					
17018	1	600	Working load (kg/sq m)	656	413	277	194	142	106					
		400	Working load (kg/sq m)	984	620	415	292	213	160					
		-	Ultimate Load (kN/Span)	26.04	22.32	19.53	17.36	15.62	14.20					
	2	600	Working load (kg/sq m)	357	300	258	194	142	106					
		400	Working load (kg/sq m)	556	471	407	292	213	160					
		-	Ultimate Load (kN/Span)	11.23	11.23	11.23	11.23	11.23	11.23					
17020	1	600	Working load (kg/sq m)	726	457	306	215	157	118					
		400	Working load (kg/sq m)	1088	685	459	322	235	177					
		-	Ultimate Load (kN/Span)	29.84	25.57	22.38	19.89	17.90	16.27					
	2	600	Working load (kg/sq m)	457	386	306	215	157	118					
		400	Working load (kg/sq m)	707	600	459	322	235	177					
		-	Ultimate Load (kN/Span)	14.06	14.06	14.06	14.06	14.06	14.06					
17025	1	600	Working load (kg/sq m)	893	562	377	265	193	145					
		400	Working load (kg/sq m)	1339	843	565	397	289	217					
		-	Ultimate Load (kN/Span)	38.62	33.10	28.96	25.75	23.17	21.07					
	2	600	Working load (kg/sq m)	743	562	377	265	193	145					
		400	Working load (kg/sq m)	1135	843	565	397	289	217					
		-	Ultimate Load (kN/Span)	22.12	22.12	22.12	22.12	22.12	22.12					
20014	1	600	Working load (kg/sq m)		519	348	244	178	134	103				
		400	Working load (kg/sq m)		779	522	366	267	201	155				
		-	Ultimate Load (kN/Span)		19.23	16.82	14.95	13.46	12.24	11.22				
	2	600	Working load (kg/sq m)		157	132	113	97	85	74				
		400	Working load (kg/sq m)		256	218	190	167	148	132				
		-	Ultimate Load (kN/Span)		6.51	6.51	6.51	6.51	6.51	6.51				
20015	1	600	Working load (kg/sq m)		555	372	261	190	143	110				
		400	Working load (kg/sq m)		832	558	392	285	214	165				
		-	Ultimate Load (kN/Span)		21.56	18.87	16.77	15.10	13.72	12.58				
	2	600	Working load (kg/sq m)		185	157	135	118	103	91				
		400	Working load (kg/sq m)		299	256	223	197	175	157				
		-	Ultimate Load (kN/Span)		7.45	7.45	7.45	7.45	7.45	7.45				
20016	1	600	Working load (kg/sq m)		591	396	278	203	152	117				
		400	Working load (kg/sq m)		886	594	417	304	228	176				
		-	Ultimate Load (kN/Span)		23.93	20.94	18.62	16.75	15.23	13.96				
	2	600	Working load (kg/sq m)		219	186	161	141	124	111				
		400	Working load (kg/sq m)		348	300	262	232	207	176				
		-	Ultimate Load (kN/Span)		8.55	8.55	8.55	8.55	8.55	8.55				

PURLINS, RAILS & EAVES BEAMS
MEZZANINE FLOOR SECTIONS LOAD TABLES

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
20018	1	600	Working load (kg/sq m)		662	444	312	227	171	131				
		400	Working load (kg/sq m)		993	665	467	341	256	197				
		-	Ultimate Load (kN/Span)		28.63	25.05	22.27	20.04	18.22	16.70				
	2	600	Working load (kg/sq m)		292	250	218	192	171	131				
		400	Working load (kg/sq m)		458	396	347	308	256	197				
		-	Ultimate Load (kN/Span)		10.95	10.95	10.95	10.95	10.95	10.95				
20020	1	600	Working load (kg/sq m)		733	491	345	251	189	146				
		400	Working load (kg/sq m)		1100	737	517	377	283	218				
		-	Ultimate Load (kN/Span)		33.22	29.07	25.84	23.26	21.14	19.38				
	2	600	Working load (kg/sq m)		377	325	284	251	189	146				
		400	Working load (kg/sq m)		586	507	446	377	283	218				
		-	Ultimate Load (kN/Span)		13.75	13.75	13.75	13.75	13.75	13.75				
20025	1	600	Working load (kg/sq m)		905	606	426	310	233	180				
		400	Working load (kg/sq m)		1357	909	638	465	350	269				
		-	Ultimate Load (kN/Span)		43.88	38.40	34.13	30.72	27.93	25.60				
	2	600	Working load (kg/sq m)		619	537	426	310	233	180				
		400	Working load (kg/sq m)		950	826	638	465	350	269				
		-	Ultimate Load (kN/Span)		21.74	21.74	21.74	21.74	21.74	21.74				
24015	1	600	Working load (kg/sq m)				419	306	230	177	139	111		
		400	Working load (kg/sq m)				629	459	345	265	209	167		
		-	Ultimate Load (kN/Span)				20.91	18.82	17.11	15.68	14.47	13.44		
	2	600	Working load (kg/sq m)				128	111	97	86	76	67		
		400	Working load (kg/sq m)				212	187	166	149	134	122		
		-	Ultimate Load (kN/Span)				7.13	7.13	7.13	7.13	7.13	7.13		
24016	1	600	Working load (kg/sq m)				447	326	245	189	148	119		
		400	Working load (kg/sq m)				670	489	367	283	222	178		
		-	Ultimate Load (kN/Span)				23.32	20.99	19.08	17.49	16.15	14.99		
	2	600	Working load (kg/sq m)				153	134	118	105	93	84		
		400	Working load (kg/sq m)				250	221	197	177	161	146		
		-	Ultimate Load (kN/Span)				8.21	8.21	8.21	8.21	8.21	8.21		
24018	1	600	Working load (kg/sq m)				501	365	275	211	166	133		
		400	Working load (kg/sq m)				752	548	412	317	249	200		
		-	Ultimate Load (kN/Span)				28.15	25.34	23.03	21.11	19.49	18.10		
	2	600	Working load (kg/sq m)				209	184	164	147	132	120		
		400	Working load (kg/sq m)				334	296	266	240	219	200		
		-	Ultimate Load (kN/Span)				10.58	10.58	10.58	10.58	10.58	10.58		
24020	1	600	Working load (kg/sq m)				555	405	304	234	184	148		
		400	Working load (kg/sq m)				833	607	456	351	276	221		
		-	Ultimate Load (kN/Span)				32.91	29.62	26.92	24.68	22.78	21.15		
	2	600	Working load (kg/sq m)				274	243	217	195	177	148		
		400	Working load (kg/sq m)				432	385	346	314	276	221		
		-	Ultimate Load (kN/Span)				13.34	13.34	13.34	13.34	13.34	13.34		

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
24025	1	600	Working load (kg/sq m)				687	501	376	290	228	182		
		400	Working load (kg/sq m)				1030	751	564	435	342	274		
		-	Ultimate Load (kN/Span)				44.11	39.70	36.09	33.08	30.54	28.36		
	2	600	Working load (kg/sq m)				461	411	370	290	228	182		
		400	Working load (kg/sq m)				712	636	564	435	342	274		
		-	Ultimate Load (kN/Span)				21.23	21.23	21.23	21.23	21.23	21.23		
24030	1	600	Working load (kg/sq m)				814	594	446	344	270	216		
		400	Working load (kg/sq m)				1221	890	669	515	405	324		
		-	Ultimate Load (kN/Span)				54.62	49.16	44.69	40.97	37.82	35.11		
	2	600	Working load (kg/sq m)				689	594	446	344	270	216		
		400	Working load (kg/sq m)				1054	890	669	515	405	324		
		-	Ultimate Load (kN/Span)				30.90	30.90	30.90	30.90	30.90	30.90		
30020	1	600	Working load (kg/sq m)						605	466	367	294	239	197
		400	Working load (kg/sq m)						908	699	550	440	358	295
		-	Ultimate Load (kN/Span)						37.45	34.33	31.69	29.42	27.46	25.75
	2	600	Working load (kg/sq m)						205	184	167	152	139	128
		400	Working load (kg/sq m)						328	297	271	249	230	213
		-	Ultimate Load (kN/Span)						12.72	12.72	12.72	12.72	12.72	12.72
30025	1	600	Working load (kg/sq m)						751	578	455	364	296	244
		400	Working load (kg/sq m)						1126	867	682	546	444	366
		-	Ultimate Load (kN/Span)						52.94	48.53	44.80	41.60	38.82	36.40
	2	600	Working load (kg/sq m)						355	322	294	270	249	231
		400	Working load (kg/sq m)						553	503	461	426	394	366
		-	Ultimate Load (kN/Span)						20.48	20.48	20.48	20.48	20.48	20.48
30030	1	600	Working load (kg/sq m)						893	688	541	433	352	290
		400	Working load (kg/sq m)						1339	1031	811	649	528	435
		-	Ultimate Load (kN/Span)						67.61	61.97	57.21	53.12	49.58	46.48
	2	600	Working load (kg/sq m)						539	491	450	415	352	290
		400	Working load (kg/sq m)						829	757	695	643	528	435
		-	Ultimate Load (kN/Span)						30.01	30.01	30.01	30.01	30.01	30.01

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
14014	1	600	Working load (kg/sq m)	471	335	247	175	128	96					
		400	Working load (kg/sq m)	727	524	374	263	192	144					
		-	Ultimate Load (kN/Span)	14.45	12.39	10.84	9.64	8.67	7.88					
	2	600	Working load (kg/sq m)	206	171	144	124	107	94					
		400	Working load (kg/sq m)	329	276	237	206	181	144					
		-	Ultimate Load (kN/Span)	6.96	6.96	6.96	6.96	6.96	6.96					
14015	1	600	Working load (kg/sq m)	528	377	266	187	136	102					
		400	Working load (kg/sq m)	813	586	400	281	205	154					
		-	Ultimate Load (kN/Span)	16.06	13.77	12.05	10.71	9.64	8.76					
	2	600	Working load (kg/sq m)	240	200	170	146	128	102					
		400	Working load (kg/sq m)	380	320	275	240	205	154					
		-	Ultimate Load (kN/Span)	7.93	7.93	7.93	7.93	7.93	7.93					
14016	1	600	Working load (kg/sq m)	585	419	283	199	145	109					
		400	Working load (kg/sq m)	898	635	425	299	218	164					
		-	Ultimate Load (kN/Span)	17.67	15.15	13.26	11.78	10.60	9.64					
	2	600	Working load (kg/sq m)	280	234	200	173	145	109					
		400	Working load (kg/sq m)	440	371	320	280	218	164					
		-	Ultimate Load (kN/Span)	9.05	9.05	9.05	9.05	9.05	9.05					
14018	1	600	Working load (kg/sq m)	696	473	317	223	162	122					
		400	Working load (kg/sq m)	1065	710	475	334	243	183					
		-	Ultimate Load (kN/Span)	20.80	17.83	15.60	13.87	12.48	11.34					
	2	600	Working load (kg/sq m)	367	309	265	223	162	122					
		400	Working load (kg/sq m)	571	484	418	334	243	183					
		-	Ultimate Load (kN/Span)	11.51	11.51	11.51	11.51	11.51	11.34					
14020	1	600	Working load (kg/sq m)	802	523	350	246	179	135					
		400	Working load (kg/sq m)	1223	785	526	369	269	202					
		-	Ultimate Load (kN/Span)	23.78	20.39	17.84	15.86	14.27	12.97					
	2	600	Working load (kg/sq m)	468	396	341	246	179	135					
		400	Working load (kg/sq m)	723	614	526	369	269	202					
		-	Ultimate Load (kN/Span)	14.37	14.37	14.37	14.37	14.27	12.97					
17014	1	600	Working load (kg/sq m)	598	429	319	243	189	149					
		400	Working load (kg/sq m)	917	663	498	385	301	226					
		-	Ultimate Load (kN/Span)	18.03	15.46	13.52	12.02	10.82	9.84					
	2	600	Working load (kg/sq m)	198	164	138	118	102	89					
		400	Working load (kg/sq m)	317	266	228	198	174	154					
		-	Ultimate Load (kN/Span)	6.73	6.73	6.73	6.73	6.73	6.73					
17015	1	600	Working load (kg/sq m)	670	481	359	275	214	161					
		400	Working load (kg/sq m)	1026	743	559	433	321	241					
		-	Ultimate Load (kN/Span)	20.06	17.20	15.05	13.38	12.04	10.94					
	2	600	Working load (kg/sq m)	232	193	163	141	123	108					
		400	Working load (kg/sq m)	368	309	266	232	204	182					
		-	Ultimate Load (kN/Span)	7.69	7.69	7.69	7.69	7.69	7.69					

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
17016	1	600	Working load (kg/sq m)	742	534	400	307	228	171					
		400	Working load (kg/sq m)	1133	822	620	469	342	257					
		-	Ultimate Load (kN/Span)	22.10	18.94	16.57	14.73	13.26	12.05					
	2	600	Working load (kg/sq m)	271	226	193	167	146	129					
		400	Working load (kg/sq m)	427	360	310	271	240	214					
		-	Ultimate Load (kN/Span)	8.80	8.80	8.80	8.80	8.80	8.80					
17018	1	600	Working load (kg/sq m)	882	637	478	350	255	192					
		400	Working load (kg/sq m)	1343	976	738	525	383	287					
		-	Ultimate Load (kN/Span)	26.04	22.32	19.53	17.36	15.62	14.20					
	2	600	Working load (kg/sq m)	357	300	258	224	198	176					
		400	Working load (kg/sq m)	556	471	407	357	317	285					
		-	Ultimate Load (kN/Span)	11.23	11.23	11.23	11.23	11.23	11.23					
17020	1	600	Working load (kg/sq m)	1016	736	551	387	282	212					
		400	Working load (kg/sq m)	1545	1124	826	580	423	318					
		-	Ultimate Load (kN/Span)	29.84	25.57	22.38	19.89	17.90	16.27					
	2	600	Working load (kg/sq m)	457	386	333	291	258	212					
		400	Working load (kg/sq m)	707	600	520	457	408	318					
		-	Ultimate Load (kN/Span)	14.06	14.06	14.06	14.06	14.06	14.06					
17025	1	600	Working load (kg/sq m)	1328	964	678	476	347	261					
		400	Working load (kg/sq m)	2012	1467	1017	714	521	391					
		-	Ultimate Load (kN/Span)	38.62	33.10	28.96	25.75	23.17	21.07					
	2	600	Working load (kg/sq m)	743	631	547	476	347	261					
		400	Working load (kg/sq m)	1135	967	841	714	521	391					
		-	Ultimate Load (kN/Span)	22.12	22.12	22.12	22.12	22.12	22.12					
20014	1	600	Working load (kg/sq m)		543	406	312	245	196	158				
		400	Working load (kg/sq m)		835	630	489	388	314	257				
		-	Ultimate Load (kN/Span)		19.23	16.82	14.95	13.46	12.24	11.22				
	2	600	Working load (kg/sq m)		157	132	113	97	85	74				
		400	Working load (kg/sq m)		256	218	190	167	148	132				
		-	Ultimate Load (kN/Span)		6.51	6.51	6.51	6.51	6.51	6.51				
20015	1	600	Working load (kg/sq m)		614	461	355	280	224	182				
		400	Working load (kg/sq m)		942	711	553	441	357	293				
		-	Ultimate Load (kN/Span)		21.56	18.87	16.77	15.10	13.72	12.58				
	2	600	Working load (kg/sq m)		185	157	135	118	103	91				
		400	Working load (kg/sq m)		299	256	223	197	175	157				
		-	Ultimate Load (kN/Span)		7.45	7.45	7.45	7.45	7.45	7.45				
20016	1	600	Working load (kg/sq m)		686	516	399	315	254	207				
		400	Working load (kg/sq m)		1049	794	619	493	401	317				
		-	Ultimate Load (kN/Span)		23.93	20.94	18.62	16.75	15.23	13.96				
	2	600	Working load (kg/sq m)		219	186	161	141	124	111				
		400	Working load (kg/sq m)		348	300	262	232	207	186				
		-	Ultimate Load (kN/Span)		8.55	8.55	8.55	8.55	8.55	8.55				

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
20018	1	600	Working load (kg/sq m)		829	625	485	385	307	237				
		400	Working load (kg/sq m)		1264	958	748	598	461	355				
		-	Ultimate Load (kN/Span)		28.63	25.05	22.27	20.04	18.22	16.70				
	2	600	Working load (kg/sq m)		292	250	218	192	171	153				
		400	Working load (kg/sq m)		458	396	347	308	277	250				
		-	Ultimate Load (kN/Span)		10.95	10.95	10.95	10.95	10.95	10.95				
20020	1	600	Working load (kg/sq m)		968	732	570	453	340	262				
		400	Working load (kg/sq m)		1473	1118	875	679	510	393				
		-	Ultimate Load (kN/Span)		33.22	29.07	25.84	23.26	21.14	19.38				
	2	600	Working load (kg/sq m)		377	325	284	252	225	203				
		400	Working load (kg/sq m)		586	507	446	398	358	325				
		-	Ultimate Load (kN/Span)		13.75	13.75	13.75	13.75	13.75	13.75				
20025	1	600	Working load (kg/sq m)		1292	980	765	559	420	323				
		400	Working load (kg/sq m)		1958	1490	1149	838	629	485				
		-	Ultimate Load (kN/Span)		43.88	38.40	34.13	30.72	27.93	25.60				
	2	600	Working load (kg/sq m)		619	537	473	421	379	323				
		400	Working load (kg/sq m)		950	826	729	652	589	485				
		-	Ultimate Load (kN/Span)		21.74	21.74	21.74	21.74	21.74	21.74				
24015	1	600	Working load (kg/sq m)				453	359	290	237	196	163		
		400	Working load (kg/sq m)				700	559	455	376	314	265		
		-	Ultimate Load (kN/Span)				20.91	18.82	17.11	15.68	14.47	13.44		
	2	600	Working load (kg/sq m)				128	111	97	86	76	67		
		400	Working load (kg/sq m)				212	187	166	149	134	122		
		-	Ultimate Load (kN/Span)				7.13	7.13	7.13	7.13	7.13	7.13		
24016	1	600	Working load (kg/sq m)				510	405	328	269	223	187		
		400	Working load (kg/sq m)				786	629	512	424	355	301		
		-	Ultimate Load (kN/Span)				23.32	20.99	19.08	17.49	16.15	14.99		
	2	600	Working load (kg/sq m)				153	134	118	105	93	84		
		400	Working load (kg/sq m)				250	221	197	177	161	146		
		-	Ultimate Load (kN/Span)				8.21	8.21	8.21	8.21	8.21	8.21		
24018	1	600	Working load (kg/sq m)				624	498	404	333	278	234		
		400	Working load (kg/sq m)				957	767	627	520	437	360		
		-	Ultimate Load (kN/Span)				28.15	25.34	23.03	21.11	19.49	18.10		
	2	600	Working load (kg/sq m)				209	184	164	147	132	120		
		400	Working load (kg/sq m)				334	296	266	240	219	200		
		-	Ultimate Load (kN/Span)				10.58	10.58	10.58	10.58	10.58	10.58		
24020	1	600	Working load (kg/sq m)				736	589	480	396	332	266		
		400	Working load (kg/sq m)				1125	904	740	615	498	398		
		-	Ultimate Load (kN/Span)				32.91	29.62	26.92	24.68	22.78	21.15		
	2	600	Working load (kg/sq m)				274	243	217	195	177	162		
		400	Working load (kg/sq m)				432	385	346	314	286	263		
		-	Ultimate Load (kN/Span)				13.34	13.34	13.34	13.34	13.34	13.34		

MEZZANINE FLOOR SECTIONS - SINGLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - 2 bolt end connection (Cleated or folded) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
24025	1	600	Working load (kg/sq m)				1001	803	657	522	410	328		
		400	Working load (kg/sq m)				1522	1225	1005	782	615	493		
		-	Ultimate Load (kN/Span)				44.11	39.70	36.09	33.08	30.54	28.36		
	2	600	Working load (kg/sq m)				461	411	370	335	306	282		
		400	Working load (kg/sq m)				712	636	575	523	480	443		
		-	Ultimate Load (kN/Span)				21.23	21.23	21.23	21.23	21.23	21.23		
24030	1	600	Working load (kg/sq m)				1249	1004	803	618	486	389		
		400	Working load (kg/sq m)				1894	1527	1204	927	729	584		
		-	Ultimate Load (kN/Span)				54.62	49.16	44.69	40.97	37.82	35.11		
	2	600	Working load (kg/sq m)				689	616	556	507	465	389		
		400	Working load (kg/sq m)				1054	945	855	780	717	584		
		-	Ultimate Load (kN/Span)				30.90	30.90	30.90	30.90	30.90	30.90		
30020	1	600	Working load (kg/sq m)						683	567	477	406	348	301
		400	Working load (kg/sq m)						1045	871	736	629	543	472
		-	Ultimate Load (kN/Span)						37.45	34.33	31.69	29.42	27.46	25.75
	2	600	Working load (kg/sq m)						205	184	167	152	139	128
		400	Working load (kg/sq m)						328	297	271	249	230	213
		-	Ultimate Load (kN/Span)						12.72	12.72	12.72	12.72	12.72	12.72
30025	1	600	Working load (kg/sq m)						982	819	692	591	509	439
		400	Working load (kg/sq m)						1494	1249	1058	907	785	659
		-	Ultimate Load (kN/Span)						52.94	48.53	44.80	41.60	38.82	36.40
	2	600	Working load (kg/sq m)						355	322	294	270	249	231
		400	Working load (kg/sq m)						553	503	461	426	394	367
		-	Ultimate Load (kN/Span)						20.48	20.48	20.48	20.48	20.48	20.48
30030	1	600	Working load (kg/sq m)						1266	1057	895	766	634	522
		400	Working load (kg/sq m)						1919	1606	1362	1169	950	783
		-	Ultimate Load (kN/Span)						67.61	61.97	57.21	53.12	49.58	46.48
	2	600	Working load (kg/sq m)						539	491	450	415	384	358
		400	Working load (kg/sq m)						829	757	695	643	597	557
		-	Ultimate Load (kN/Span)						30.01	30.01	30.01	30.01	30.01	30.01

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
14014	1	600	Working load (kg/sq m)	582	431	329	234	170	128					
		400	Working load (kg/sq m)	894	668	499	351	256	192					
		-	Ultimate Load (kN/Span)	17.58	15.55	13.92	12.59	11.48	10.55					
	2	600	Working load (kg/sq m)	175	128	93	66	44	26					
		400	Working load (kg/sq m)	283	213	160	119	86	59					
		-	Ultimate Load (kN/Span)	6.09	5.57	5.04	4.51	3.99	3.46					
14015	1	600	Working load (kg/sq m)	697	517	355	250	182	137					
		400	Working load (kg/sq m)	1066	796	533	374	273	205					
		-	Ultimate Load (kN/Span)	20.82	18.36	16.40	14.81	13.50	12.39					
	2	600	Working load (kg/sq m)	203	149	109	77	52	32					
		400	Working load (kg/sq m)	325	244	183	136	99	68					
		-	Ultimate Load (kN/Span)	6.87	6.25	5.63	5.00	4.38	3.75					
14016	1	600	Working load (kg/sq m)	811	564	378	266	194	145					
		400	Working load (kg/sq m)	1237	847	567	398	290	218					
		-	Ultimate Load (kN/Span)	24.05	21.16	18.88	17.03	15.50	14.22					
	2	600	Working load (kg/sq m)	232	170	124	88	60	36					
		400	Working load (kg/sq m)	368	276	207	153	110	75					
		-	Ultimate Load (kN/Span)	7.69	6.95	6.21	5.47	4.73	3.99					
14018	1	600	Working load (kg/sq m)	1002	631	423	297	216	163					
		400	Working load (kg/sq m)	1503	947	634	445	325	244					
		-	Ultimate Load (kN/Span)	30.41	26.69	23.76	21.40	19.46	17.84					
	2	600	Working load (kg/sq m)	290	211	153	107	71	41					
		400	Working load (kg/sq m)	455	338	250	181	127	82					
		-	Ultimate Load (kN/Span)	9.32	8.31	7.29	6.27	5.26	4.24					
14020	1	600	Working load (kg/sq m)	1108	698	467	328	239	180					
		400	Working load (kg/sq m)	1662	1046	701	492	359	270					
		-	Ultimate Load (kN/Span)	36.70	32.15	28.59	25.72	23.37	21.41					
	2	600	Working load (kg/sq m)	346	249	177	120	75	38					
		400	Working load (kg/sq m)	540	394	285	200	132	77					
		-	Ultimate Load (kN/Span)	10.93	9.56	8.18	6.81	5.43	4.06					
17014	1	600	Working load (kg/sq m)	725	545	421	332	266	201					
		400	Working load (kg/sq m)	1107	838	652	518	401	301					
		-	Ultimate Load (kN/Span)	21.6	19.28	17.37	15.78	14.44	13.31					
	2	600	Working load (kg/sq m)	192	147	113	87	65	48					
		400	Working load (kg/sq m)	308	241	190	150	119	93					
		-	Ultimate Load (kN/Span)	6.57	6.18	5.78	5.39	5.00	4.61					
17015	1	600	Working load (kg/sq m)	870	654	505	392	286	215					
		400	Working load (kg/sq m)	1326	1001	778	587	428	322					
		-	Ultimate Load (kN/Span)	25.71	22.87	20.54	18.63	17.03	15.67					
	2	600	Working load (kg/sq m)	224	172	133	102	78	58					
		400	Working load (kg/sq m)	356	278	220	174	138	108					
		-	Ultimate Load (kN/Span)	7.47	7.00	6.53	6.07	5.60	5.13					

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
17016	1	600	Working load (kg/sq m)	1016	762	589	417	304	228					
		400	Working load (kg/sq m)	1544	1164	890	625	456	342					
		-	Ultimate Load (kN/Span)	29.81	26.44	23.71	21.46	19.60	18.02					
	2	600	Working load (kg/sq m)	258	198	153	119	91	68					
		400	Working load (kg/sq m)	407	317	251	198	157	123					
		-	Ultimate Load (kN/Span)	8.42	7.87	7.31	6.75	6.20	5.64					
17018	1	600	Working load (kg/sq m)	1302	976	664	467	340	256					
		400	Working load (kg/sq m)	1974	1485	997	700	510	383					
		-	Ultimate Load (kN/Span)	37.91	33.49	29.95	27.07	24.68	22.67					
	2	600	Working load (kg/sq m)	328	252	195	150	115	86					
		400	Working load (kg/sq m)	512	398	312	246	193	149					
		-	Ultimate Load (kN/Span)	10.40	9.63	8.86	8.09	7.32	6.55					
17020	1	600	Working load (kg/sq m)	1587	1097	735	516	376	283					
		400	Working load (kg/sq m)	2400	1645	1102	774	564	424					
		-	Ultimate Load (kN/Span)	45.93	40.48	36.14	32.62	29.71	27.27					
	2	600	Working load (kg/sq m)	401	306	235	179	135	99					
		400	Working load (kg/sq m)	621	479	372	290	223	169					
		-	Ultimate Load (kN/Span)	12.46	11.41	10.37	9.32	8.28	7.23					
17025	1	600	Working load (kg/sq m)	2144	1350	904	635	463	348					
		400	Working load (kg/sq m)	3215	2025	1356	953	695	522					
		-	Ultimate Load (kN/Span)	65.31	57.35	51.07	46.01	41.85	38.37					
	2	600	Working load (kg/sq m)	579	429	317	230	160	103					
		400	Working load (kg/sq m)	889	664	496	365	261	175					
		-	Ultimate Load (kN/Span)	17.49	15.48	13.47	11.46	9.45	7.44					
20014	1	600	Working load (kg/sq m)		557	438	350	284	233	193				
		400	Working load (kg/sq m)		856	677	546	446	370	310				
		-	Ultimate Load (kN/Span)		19.68	18.01	16.55	15.28	14.17	13.21				
	2	600	Working load (kg/sq m)		158	125	100	80	63	49				
		400	Working load (kg/sq m)		258	209	170	140	115	94				
		-	Ultimate Load (kN/Span)		6.55	6.26	5.96	5.67	5.38	5.08				
20015	1	600	Working load (kg/sq m)		704	552	441	359	295	246				
		400	Working load (kg/sq m)		1076	848	682	558	463	389				
		-	Ultimate Load (kN/Span)		24.52	22.31	20.41	18.79	17.39	16.17				
	2	600	Working load (kg/sq m)		187	149	120	96	77	61				
		400	Working load (kg/sq m)		300	244	200	165	136	112				
		-	Ultimate Load (kN/Span)		7.49	7.14	6.79	6.45	6.10	5.75				
20016	1	600	Working load (kg/sq m)		850	666	532	433	357	282				
		400	Working load (kg/sq m)		1295	1019	819	670	548	422				
		-	Ultimate Load (kN/Span)		29.33	26.59	24.26	22.28	20.59	19.12				
	2	600	Working load (kg/sq m)		217	174	140	114	92	73				
		400	Working load (kg/sq m)		346	282	231	191	158	130				
		-	Ultimate Load (kN/Span)		8.50	8.09	7.67	7.26	6.85	6.43				

PURLINS, RAILS & EAVES BEAMS
MEZZANINE FLOOR SECTIONS LOAD TABLES

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
20018	1	600	Working load (kg/sq m)		1139	890	712	545	410	316				
		400	Working load (kg/sq m)		1729	1356	1088	818	615	473				
		-	Ultimate Load (kN/Span)		38.86	35.05	31.86	29.19	26.91	24.95				
	2	600	Working load (kg/sq m)		282	227	184	149	121	97				
		400	Working load (kg/sq m)		444	360	296	244	202	166				
		-	Ultimate Load (kN/Span)		10.64	10.07	9.50	8.93	8.36	7.79				
20020	1	600	Working load (kg/sq m)		1426	1113	828	604	454	349				
		400	Working load (kg/sq m)		2160	1690	1242	906	680	524				
		-	Ultimate Load (kN/Span)		48.30	43.43	39.40	36.02	33.17	30.72				
	2	600	Working load (kg/sq m)		351	282	228	185	150	120				
		400	Working load (kg/sq m)		548	443	363	298	245	201				
		-	Ultimate Load (kN/Span)		12.92	12.15	11.38	10.62	9.85	9.08				
20025	1	600	Working load (kg/sq m)		2123	1455	1022	745	560	431				
		400	Working load (kg/sq m)		3204	2183	1533	1117	840	647				
		-	Ultimate Load (kN/Span)		71.24	63.78	57.68	52.62	48.36	44.73				
	2	600	Working load (kg/sq m)		530	419	334	265	209	162				
		400	Working load (kg/sq m)		815	650	521	418	334	264				
		-	Ultimate Load (kN/Span)		18.78	17.32	15.86	14.40	12.94	11.48				
24015	1	600	Working load (kg/sq m)				509	419	348	293	248	212		
		400	Working load (kg/sq m)				783	648	543	460	393	338		
		-	Ultimate Load (kN/Span)				23.26	21.61	20.14	18.84	17.68	16.65		
	2	600	Working load (kg/sq m)				129	106	88	73	60	49		
		400	Working load (kg/sq m)				214	180	153	130	110	94		
		-	Ultimate Load (kN/Span)				7.18	6.93	6.67	6.42	6.17	5.91		
24016	1	600	Working load (kg/sq m)				629	517	430	362	308	264		
		400	Working load (kg/sq m)				963	796	666	564	482	416		
		-	Ultimate Load (kN/Span)				28.34	26.23	24.38	22.76	21.32	20.05		
	2	600	Working load (kg/sq m)				153	127	106	88	73	61		
		400	Working load (kg/sq m)				249	211	179	153	130	111		
		-	Ultimate Load (kN/Span)				8.19	7.88	7.58	7.28	6.98	6.68		
24018	1	600	Working load (kg/sq m)				866	712	593	500	399	320		
		400	Working load (kg/sq m)				1320	1088	910	762	599	480		
		-	Ultimate Load (kN/Span)				38.40	35.39	32.78	30.51	28.52	26.77		
	2	600	Working load (kg/sq m)				203	170	143	120	101	84		
		400	Working load (kg/sq m)				325	275	234	200	171	147		
		-	Ultimate Load (kN/Span)				10.32	9.90	9.49	9.07	8.65	8.24		
24020	1	600	Working load (kg/sq m)				1102	904	730	563	442	354		
		400	Working load (kg/sq m)				1673	1377	1096	844	664	531		
		-	Ultimate Load (kN/Span)				48.38	44.47	41.11	38.20	35.66	33.43		
	2	600	Working load (kg/sq m)				257	215	181	153	129	108		
		400	Working load (kg/sq m)				406	344	292	250	213	182		
		-	Ultimate Load (kN/Span)				12.62	12.05	11.49	10.93	10.36	9.80		

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/360

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
24025	1	600	Working load (kg/sq m)				1649	1202	903	696	547	438		
		400	Working load (kg/sq m)				2474	1803	1355	1044	821	657		
		-	Ultimate Load (kN/Span)				72.71	66.59	61.39	56.92	53.04	49.66		
	2	600	Working load (kg/sq m)				399	332	277	232	193	160		
		400	Working load (kg/sq m)				619	518	436	368	310	261		
		-	Ultimate Load (kN/Span)				18.61	17.54	16.46	15.39	14.31	13.24		
24030	1	600	Working load (kg/sq m)				1955	1425	1071	825	649	519		
		400	Working load (kg/sq m)				2932	2138	1606	1237	973	779		
		-	Ultimate Load (kN/Span)				96.29	88.03	81.05	75.07	69.89	65.38		
	2	600	Working load (kg/sq m)				541	444	364	297	241	193		
		400	Working load (kg/sq m)				832	686	566	467	382	310		
		-	Ultimate Load (kN/Span)				24.64	22.79	20.94	19.09	17.24	15.40		
30020	1	600	Working load (kg/sq m)						804	687	593	515	450	396
		400	Working load (kg/sq m)						1227	1051	909	793	696	615
		-	Ultimate Load (kN/Span)						43.73	41.10	38.73	36.59	34.65	32.90
	2	600	Working load (kg/sq m)						206	179	156	137	120	105
		400	Working load (kg/sq m)						330	289	255	225	200	177
		-	Ultimate Load (kN/Span)						12.78	12.41	12.05	11.68	11.32	10.95
30025	1	600	Working load (kg/sq m)						1425	1214	1045	874	711	586
		400	Working load (kg/sq m)						2158	1842	1588	1311	1066	878
		-	Ultimate Load (kN/Span)						75.87	70.84	66.40	62.45	58.92	55.76
	2	600	Working load (kg/sq m)						341	297	260	228	201	176
		400	Working load (kg/sq m)						531	466	410	363	321	285
		-	Ultimate Load (kN/Span)						19.74	19.06	18.39	17.71	17.03	16.36
30030	1	600	Working load (kg/sq m)						2031	1651	1298	1039	845	696
		400	Working load (kg/sq m)						3067	2476	1947	1559	1268	1045
		-	Ultimate Load (kN/Span)						107.21	99.83	93.36	87.65	82.57	78.04
	2	600	Working load (kg/sq m)						488	424	369	323	282	247
		400	Working load (kg/sq m)						753	656	574	504	444	390
		-	Ultimate Load (kN/Span)						27.38	26.23	25.08	23.94	22.79	21.64

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
14014	1	600	Working load (kg/sq m)	582	431	329	256	203	163					
		400	Working load (kg/sq m)	894	668	514	405	325	265					
		-	Ultimate Load (kN/Span)	17.58	15.55	13.92	12.59	11.48	10.55					
	2	600	Working load (kg/sq m)	175	128	93	66	44	26					
		400	Working load (kg/sq m)	283	213	160	119	86	59					
		-	Ultimate Load (kN/Span)	6.09	5.57	5.04	4.51	3.99	3.46					
14015	1	600	Working load (kg/sq m)	697	517	395	309	246	199					
		400	Working load (kg/sq m)	1066	796	613	484	390	318					
		-	Ultimate Load (kN/Span)	20.82	18.36	16.40	14.81	13.50	12.39					
	2	600	Working load (kg/sq m)	203	149	109	77	52	32					
		400	Working load (kg/sq m)	325	244	183	136	99	68					
		-	Ultimate Load (kN/Span)	6.87	6.25	5.63	5.00	4.38	3.75					
14016	1	600	Working load (kg/sq m)	811	602	461	361	289	234					
		400	Working load (kg/sq m)	1237	923	712	563	454	372					
		-	Ultimate Load (kN/Span)	24.05	21.16	18.88	17.03	15.50	14.22					
	2	600	Working load (kg/sq m)	232	170	124	88	60	36					
		400	Working load (kg/sq m)	368	276	207	153	110	75					
		-	Ultimate Load (kN/Span)	7.69	6.95	6.21	5.47	4.73	3.99					
14018	1	600	Working load (kg/sq m)	1037	770	591	465	373	293					
		400	Working load (kg/sq m)	1575	1175	906	717	580	439					
		-	Ultimate Load (kN/Span)	30.41	26.69	23.76	21.40	19.46	17.84					
	2	600	Working load (kg/sq m)	290	211	153	107	71	41					
		400	Working load (kg/sq m)	455	338	250	181	127	82					
		-	Ultimate Load (kN/Span)	9.32	8.31	7.29	6.27	5.26	4.24					
14020	1	600	Working load (kg/sq m)	1260	936	719	567	431	324					
		400	Working load (kg/sq m)	1910	1424	1099	870	646	485					
		-	Ultimate Load (kN/Span)	36.70	32.15	28.59	25.72	23.37	21.41					
	2	600	Working load (kg/sq m)	346	249	177	120	75	38					
		400	Working load (kg/sq m)	540	394	285	200	132	77					
		-	Ultimate Load (kN/Span)	10.93	9.56	8.18	6.81	5.43	4.06					
17014	1	600	Working load (kg/sq m)	725	545	421	332	266	216					
		400	Working load (kg/sq m)	1107	838	652	518	420	345					
		-	Ultimate Load (kN/Span)	21.6	19.28	17.37	15.78	14.44	13.31					
	2	600	Working load (kg/sq m)	192	147	113	87	65	48					
		400	Working load (kg/sq m)	308	241	190	150	119	93					
		-	Ultimate Load (kN/Span)	6.57	6.18	5.78	5.39	5.00	4.61					
17015	1	600	Working load (kg/sq m)	870	654	505	399	321	262					
		400	Working load (kg/sq m)	1326	1001	778	619	502	413					
		-	Ultimate Load (kN/Span)	25.71	22.87	20.54	18.63	17.03	15.67					
	2	600	Working load (kg/sq m)	224	172	133	102	78	58					
		400	Working load (kg/sq m)	356	278	220	174	138	108					
		-	Ultimate Load (kN/Span)	7.47	7.00	6.53	6.07	5.60	5.13					

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
17016	1	600	Working load (kg/sq m)	1016	762	589	466	376	308					
		400	Working load (kg/sq m)	1544	1164	904	720	584	482					
		-	Ultimate Load (kN/Span)	29.81	26.44	23.71	21.46	19.60	18.02					
	2	600	Working load (kg/sq m)	258	198	153	119	91	68					
		400	Working load (kg/sq m)	407	317	251	198	157	123					
		-	Ultimate Load (kN/Span)	8.42	7.87	7.31	6.75	6.20	5.64					
17018	1	600	Working load (kg/sq m)	1302	976	755	599	484	397					
		400	Working load (kg/sq m)	1974	1485	1153	918	746	616					
		-	Ultimate Load (kN/Span)	37.91	33.49	29.95	27.07	24.68	22.67					
	2	600	Working load (kg/sq m)	328	252	195	150	115	86					
		400	Working load (kg/sq m)	512	398	312	246	193	149					
		-	Ultimate Load (kN/Span)	10.40	9.63	8.86	8.09	7.32	6.55					
17020	1	600	Working load (kg/sq m)	1587	1188	919	730	591	486					
		400	Working load (kg/sq m)	2400	1803	1400	1115	906	750					
		-	Ultimate Load (kN/Span)	45.93	40.48	36.14	32.62	29.71	27.27					
	2	600	Working load (kg/sq m)	401	306	235	179	135	99					
		400	Working load (kg/sq m)	621	479	372	290	223	169					
		-	Ultimate Load (kN/Span)	12.46	11.41	10.37	9.32	8.28	7.23					
17025	1	600	Working load (kg/sq m)	2273	1701	1316	1046	833	626					
		400	Working load (kg/sq m)	3430	2572	1995	1589	1250	939					
		-	Ultimate Load (kN/Span)	65.31	57.35	51.07	46.01	41.85	38.37					
	2	600	Working load (kg/sq m)	579	429	317	230	160	103					
		400	Working load (kg/sq m)	889	664	496	365	261	175					
		-	Ultimate Load (kN/Span)	17.49	15.48	13.47	11.46	9.45	7.44					
20014	1	600	Working load (kg/sq m)		557	438	350	284	233	193				
		400	Working load (kg/sq m)		856	677	546	446	370	310				
		-	Ultimate Load (kN/Span)		19.68	18.01	16.55	15.28	14.17	13.21				
	2	600	Working load (kg/sq m)		158	125	100	80	63	49				
		400	Working load (kg/sq m)		258	209	170	140	115	94				
		-	Ultimate Load (kN/Span)		6.55	6.26	5.96	5.67	5.38	5.08				
20015	1	600	Working load (kg/sq m)		704	552	441	359	295	246				
		400	Working load (kg/sq m)		1076	848	682	558	463	389				
		-	Ultimate Load (kN/Span)		24.52	22.31	20.41	18.79	17.39	16.17				
	2	600	Working load (kg/sq m)		187	149	120	96	77	61				
		400	Working load (kg/sq m)		300	244	200	165	136	112				
		-	Ultimate Load (kN/Span)		7.49	7.14	6.79	6.45	6.10	5.75				
20016	1	600	Working load (kg/sq m)		850	666	532	433	357	298				
		400	Working load (kg/sq m)		1295	1019	819	670	556	467				
		-	Ultimate Load (kN/Span)		29.33	26.59	24.26	22.28	20.59	19.12				
	2	600	Working load (kg/sq m)		217	174	140	114	92	73				
		400	Working load (kg/sq m)		346	282	231	191	158	130				
		-	Ultimate Load (kN/Span)		8.50	8.09	7.67	7.26	6.85	6.43				

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
20018	1	600	Working load (kg/sq m)		1139	890	712	580	479	401				
		400	Working load (kg/sq m)		1729	1356	1088	890	739	622				
		-	Ultimate Load (kN/Span)		38.86	35.05	31.86	29.19	26.91	24.95				
	2	600	Working load (kg/sq m)		282	227	184	149	121	97				
		400	Working load (kg/sq m)		444	360	296	244	202	166				
		-	Ultimate Load (kN/Span)		10.64	10.07	9.50	8.93	8.36	7.79				
20020	1	600	Working load (kg/sq m)		1426	1113	890	725	600	503				
		400	Working load (kg/sq m)		2160	1690	1355	1108	921	776				
		-	Ultimate Load (kN/Span)		48.30	43.43	39.40	36.02	33.17	30.72				
	2	600	Working load (kg/sq m)		351	282	228	185	150	120				
		400	Working load (kg/sq m)		548	443	363	298	245	201				
		-	Ultimate Load (kN/Span)		12.92	12.15	11.38	10.62	9.85	9.08				
20025	1	600	Working load (kg/sq m)		2123	1654	1322	1078	894	752				
		400	Working load (kg/sq m)		3204	2501	2003	1637	1361	1148				
		-	Ultimate Load (kN/Span)		71.24	63.78	57.68	52.62	48.36	44.73				
	2	600	Working load (kg/sq m)		530	419	334	265	209	162				
		400	Working load (kg/sq m)		815	650	521	418	334	264				
		-	Ultimate Load (kN/Span)		18.78	17.32	15.86	14.40	12.94	11.48				
24015	1	600	Working load (kg/sq m)				509	419	348	293	248	212		
		400	Working load (kg/sq m)				783	648	543	460	393	338		
		-	Ultimate Load (kN/Span)				23.26	21.61	20.14	18.84	17.68	16.65		
	2	600	Working load (kg/sq m)				129	106	88	73	60	49		
		400	Working load (kg/sq m)				214	180	153	130	110	94		
		-	Ultimate Load (kN/Span)				7.18	6.93	6.67	6.42	6.17	5.91		
24016	1	600	Working load (kg/sq m)				629	517	430	362	308	264		
		400	Working load (kg/sq m)				963	796	666	564	482	416		
		-	Ultimate Load (kN/Span)				28.34	26.23	24.38	22.76	21.32	20.05		
	2	600	Working load (kg/sq m)				153	127	106	88	73	61		
		400	Working load (kg/sq m)				249	211	179	153	130	111		
		-	Ultimate Load (kN/Span)				8.19	7.88	7.58	7.28	6.98	6.68		
24018	1	600	Working load (kg/sq m)				866	712	593	500	426	366		
		400	Working load (kg/sq m)				1320	1088	910	770	659	569		
		-	Ultimate Load (kN/Span)				38.40	35.39	32.78	30.51	28.52	26.77		
	2	600	Working load (kg/sq m)				203	170	143	120	101	84		
		400	Working load (kg/sq m)				325	275	234	200	171	147		
		-	Ultimate Load (kN/Span)				10.32	9.90	9.49	9.07	8.65	8.24		
24020	1	600	Working load (kg/sq m)				1102	904	754	636	542	467		
		400	Working load (kg/sq m)				1673	1377	1151	974	834	721		
		-	Ultimate Load (kN/Span)				48.38	44.47	41.11	38.20	35.66	33.43		
	2	600	Working load (kg/sq m)				257	215	181	153	129	108		
		400	Working load (kg/sq m)				406	344	292	250	213	182		
		-	Ultimate Load (kN/Span)				12.62	12.05	11.49	10.93	10.36	9.80		

MEZZANINE FLOOR SECTIONS - DOUBLE SPAN : DEFLECTION LIMIT = SPAN/200

Working load in kg/sq m (Includes an allowance for dead load and self weight of 0.40 kN/sq m)
Ultimate load in kN/Span (Ultimate capacity of the section with no allowance taken for dead load and self weight)

Support condition 1 - Top of Steel with cleats (2 bolt connection) • **Support condition 2** - Top of Steel with no cleats (Minimum support width = 50mm)

Section	Support Condition	Centres (mm)		Span										
				3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
24025	1	600	Working load (kg/sq m)				1677	1375	1146	968	827	713		
		400	Working load (kg/sq m)				2535	2083	1739	1472	12600	1090		
		-	Ultimate Load (kN/Span)				72.71	66.59	61.39	56.92	53.04	49.66		
	2	600	Working load (kg/sq m)				399	332	277	232	193	160		
		400	Working load (kg/sq m)				619	518	436	368	310	261		
		-	Ultimate Load (kN/Span)				18.61	17.54	16.46	15.39	14.31	13.24		
24030	1	600	Working load (kg/sq m)				2234	1831	1525	1289	1102	935		
		400	Working load (kg/sq m)				3371	2766	2309	1954	1674	1402		
		-	Ultimate Load (kN/Span)				96.29	88.03	81.05	75.07	69.89	65.38		
	2	600	Working load (kg/sq m)				541	444	364	297	241	193		
		400	Working load (kg/sq m)				832	686	566	467	382	310		
		-	Ultimate Load (kN/Span)				24.64	22.79	20.94	19.09	17.24	15.40		
30020	1	600	Working load (kg/sq m)						804	687	593	515	450	396
		400	Working load (kg/sq m)						1227	1051	909	793	696	615
		-	Ultimate Load (kN/Span)						43.73	41.10	38.73	36.59	34.65	32.90
	2	600	Working load (kg/sq m)						206	179	156	137	120	105
		400	Working load (kg/sq m)						330	289	255	225	200	177
		-	Ultimate Load (kN/Span)						12.78	12.41	12.05	11.68	11.32	10.95
30025	1	600	Working load (kg/sq m)						1425	1214	1045	907	794	700
		400	Working load (kg/sq m)						2158	1842	1588	1382	1212	1071
		-	Ultimate Load (kN/Span)						75.87	70.84	66.40	62.45	58.92	55.76
	2	600	Working load (kg/sq m)						341	297	260	228	201	176
		400	Working load (kg/sq m)						531	466	410	363	321	285
		-	Ultimate Load (kN/Span)						19.74	19.06	18.39	17.71	17.03	16.36
30030	1	600	Working load (kg/sq m)						2031	1728	1486	1290	1129	996
		400	Working load (kg/sq m)						3067	2612	2249	1955	1715	1515
		-	Ultimate Load (kN/Span)						107.21	99.83	93.36	87.65	82.57	78.04
	2	600	Working load (kg/sq m)						488	424	369	323	282	247
		400	Working load (kg/sq m)						753	656	574	504	444	390
		-	Ultimate Load (kN/Span)						27.38	26.23	25.08	23.94	22.79	21.64

NON UNIFORM SPANS

The most economical design of frames and cold-rolled sections occurs when all spans are of equal length. However there are circumstances where it is not possible to achieve this due to practical constraints. This section gives an indication of how to deal with non-uniform design cases, based on guidance in BS EN 1993-1-3:2006.

Case I

Spans not varying by more than 20% of the maximum span.

a) **Sleeved or Heavy End-Bay System**

In this case select sections and sleeves on the basis that all spans are assumed to equal the maximum span.

b) **Butted system**

Select a section for each span individually, or for the maximum span. Note that it is usual to maintain the same depth of section for all spans so that the same cleats are used throughout, though this is not mandatory provided detailing is suitably adapted.

Case 2

Spans not complying with case 1, but within specific limits.

a) **Sleeved or Heavy End-Bay system**

Split the run of sections into a number of sets of spans where the variation in each set is not more than 20% of the largest span in that set and choose section thickness on the basis of the largest span in each set, i.e. treat each set of spans as a case 1 situation.

b) **Butted System**

This may be used without limitation.

Case 3

Spans not complying with the limits of case 1 nor case 2.

In this case, either use butted sections throughout the structure or contact Steadmans for specific advice.

NOTE: Where span variations are unavoidable the most robust structure will result if the larger spans are kept away from the end bay locations.

REFERENCES

- Approved Documents
  - A Structure
  - B Fire safety
  - C Site preparation and resistance to contaminants and moisture.
  - L2A Conservation of fuel and power in new buildings other than dwellings.
  - L2B Conservation of fuel and power in existing buildings other than dwellings.
- The Scottish Building Standards: Technical Handbook.
  - Non-domestic.
- BS 476 Fire tests on building material and structures.
  - BS 476-3:2004 Classification and method of test for external fire exposure to roofs.
  - BS 476-7:1997 Method of test to determine the classification of the surface spread of flame of products.
  - BS 476-22:1987 Methods for determination of the fire resistance of non-loadbearing elements of construction.
- BS 5250:2002 Code of practice for control of condensation in buildings.
- BS EN 1090-2:2008 Execution of steel structures and aluminium structures. Technical requirements for the execution of steel structures.
- BS EN 1993-1-3:2006 Eurocode 3. Design of steel structures. General rules. Supplementary rules for cold-formed members and sheeting
- BS 8206 Lighting for buildings.
  - BS 8206-2:2008 Code of practice for daylighting.
- BS EN 10143:2006 Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape.
- BS EN 10346:2009 Continuously hot-dip coated steel flat products. Technical delivery conditions.
- BS EN 12056 Gravity drainage systems inside buildings.
  - BS EN 12056-3:2000 Roof drainage, layout and calculation.
- BS EN ISO 10211 Thermal bridges in building construction. Heat flows and surface temperatures.
  - BS EN ISO 10211-1:1996 General calculation methods.
- BS EN ISO 13788:2002 Hygrothermal performance of building components and building elements. Internal surface temperature to avoid critical surface humidity and interstitial condensation. Calculation methods.
- MRCMA Technical paper 14. Guidance for the design of metal roofing and cladding to comply with Approved Document L2: 2001
- TM 37: Design for improved solar shading. 2006

PURLINS, RAILS & EAVES BEAMS
TECHNICAL SUPPORT

Steadmans offers comprehensive technical support to designers and contractors working with Steadmans products and accessories, including:

- technical brochures and data sheets
- CAD details
- copies of test certificates
- loading calculations
- NBS Specifications
- design and installation guidance
- project showcase and case studies

All the support information above can be downloaded direct or requested from our website.

www.steadmans.co.uk

To contact our Technical Department:

- tel: 01697 478 277
- fax: 01697 478 530
- email: support@steadmans.co.uk

To contact our Sales Department:

- tel: 01697 478 277
- fax: 01697 478 530
- email: info@steadmans.co.uk

TECHNICAL BROCHURES

Our technical brochures contain all the performance, design and sitework information specifiers require to select, incorporate and specify Steadmans products into a project.

All our brochures are available in PDF format for immediate download from our web site. Printed copies are also available upon request.

CAD DETAILS

All the design details contained in our technical brochures are being made available for free in AutoCAD 2004 format for incorporating into project designs.

To access the current range of details, go to the Support section of our web site and select the 'Downloads' link.

There is no need to register to use our details.

TEST CERTIFICATES

Copies of test certificates are available upon request from our Technical Department.

LOADING CALCULATIONS

For loading calculations contact our Technical Department - see details opposite.

NBS SPECIFICATIONS

NBS Plus is a library of technical product information written in NBS format, linked to NBS clauses and clause guidance.

With NBS Plus, specifiers can select products quickly and accurately then drop the product information directly into a specification.

NBS clauses for AS twin skin roof and wall systems and other Steadmans products are now available for NBS subscribers. To access NBS Plus, go to our web site and click on the link on the home page.

DESIGN & INSTALLATION GUIDANCE

Design and installation guidance for the AS35 system, Single Skin system, Twin Skin system, Meta-Slate & Meta-Slate*Plus* systems are contained in the individual technical brochures and manuals.

These can all be downloaded from the 'Literature' section of the Steadmans web site.

In addition, we also provide installation instruction sheets for various applications. Links for these are located on the 'Downloads' page in the Support section of our web site.

STEADMANS WEBSITE

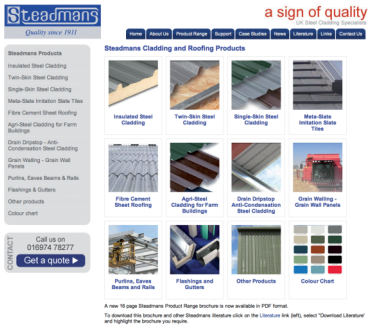
The Steadmans website is a comprehensive, easy to navigate database of information on Steadmans and our complete range of products and services.

The information is divided into seven information sections:

- About Us
- Product Range
- Support
- Case Studies
- News
- Literature
- Links

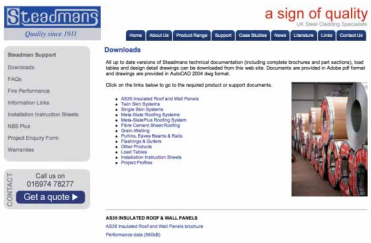
We strive to ensure that using the website is as rewarding as possible and always welcome any feedback you have regarding the content and usability of our website.

Product range



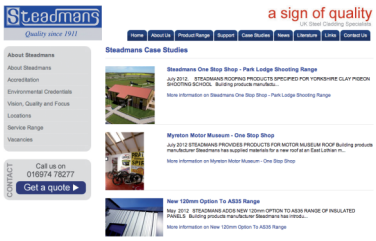
All the information contained in our technical brochures is included on the website along with download pdfs of individual brochure sections of some products covering design guidance, technical details and performance data. This section also includes additional products which do not have printed or download brochures.

Support



The Support section includes information on Fire Performance and Warranties, a list of Frequently Asked Questions, links to other relevant Organisations/Trade Associations/ Building Regulations and to our NBS Plus Specifications. You can also request information and download literature and installation instructions for our sheets and other products.

Case Studies

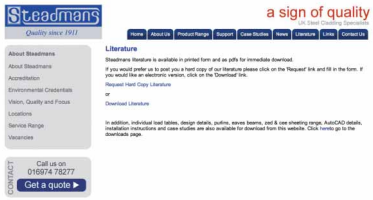


The Case Studies section contains information and photographs of recent projects.

News

All the latest Steadmans news.

Literature



This is a quick link to a page where you can request printed copies of our brochures or download electronic copies in PDF format.

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ENVIRONMENTAL CREDENTIALS

We recognise the need to manage the impact which our business and processes have on the environment. We believe we have a responsibility to contribute to the well-being of the communities we live in. We are committed to providing a clean, safe environment.

Developing sustainable construction methods presents a challenge to the whole construction industry. Our main raw material, steel, is eminently recyclable: 85 - 90% of steel from demolition goes for re-use and 40% of steel used in new construction has been recycled.

By using modern machinery and upgrading our facilities we are continually reducing the impact of our products on the environment, and improving their contribution to the long-term performance of buildings.