

How Can We Help You?

Phoenix Steels are a Cold Rollforming Specialist producing a complete range of Zed Purlins, Eaves Beams, Side Rails and Accessories at our site in West Bromwich. We offer a fast, no-frills manufacturing service concentrating on the essentials.

- Prime Quality
- Outstanding Service
- Unbeatable Value

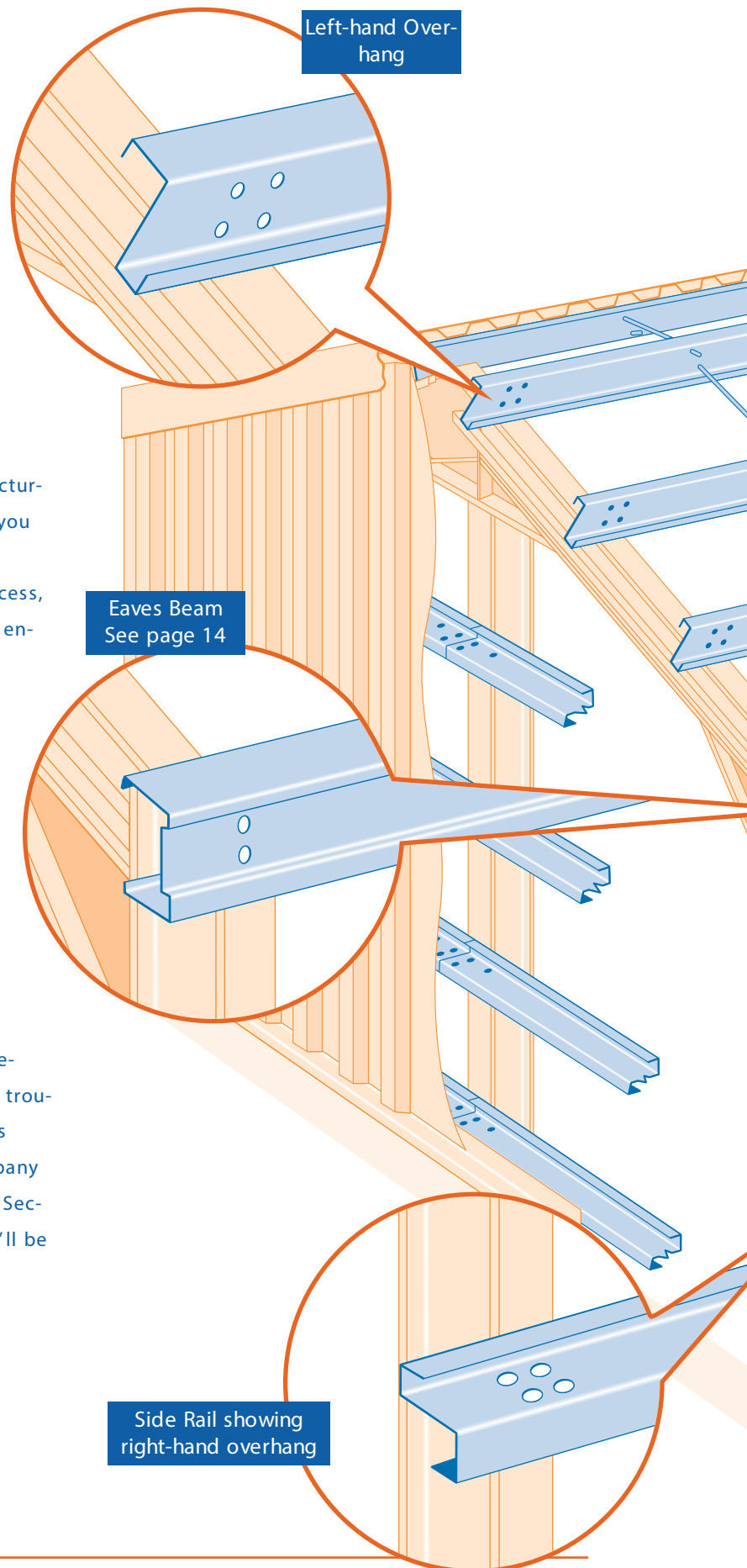
You can order directly off a member of our manufacturing team, and they are your point of contact until you are satisfied with completion.

Having a streamlined order and manufacturing process, we can give you the very best possible lead times, ensuring we meet with your delivery requirements. If you need rapid manufacture we can re-organise our schedule for you immediately and give you a completion time that you can rely on. One point contact with our production department gives you an accurate picture of how your order is progressing and puts you in full control if you need anything changing.

No On-Site Holdups

If you are working to tight deadlines or you need replacements urgently then we aim to get you out of trouble (Other manufacturers regularly use our services when they can't cope and we are the only UK company of which we know trusted to do this). "When Steel Sections says your goods will be ready, You know they'll be ready"

No Late Deliveries



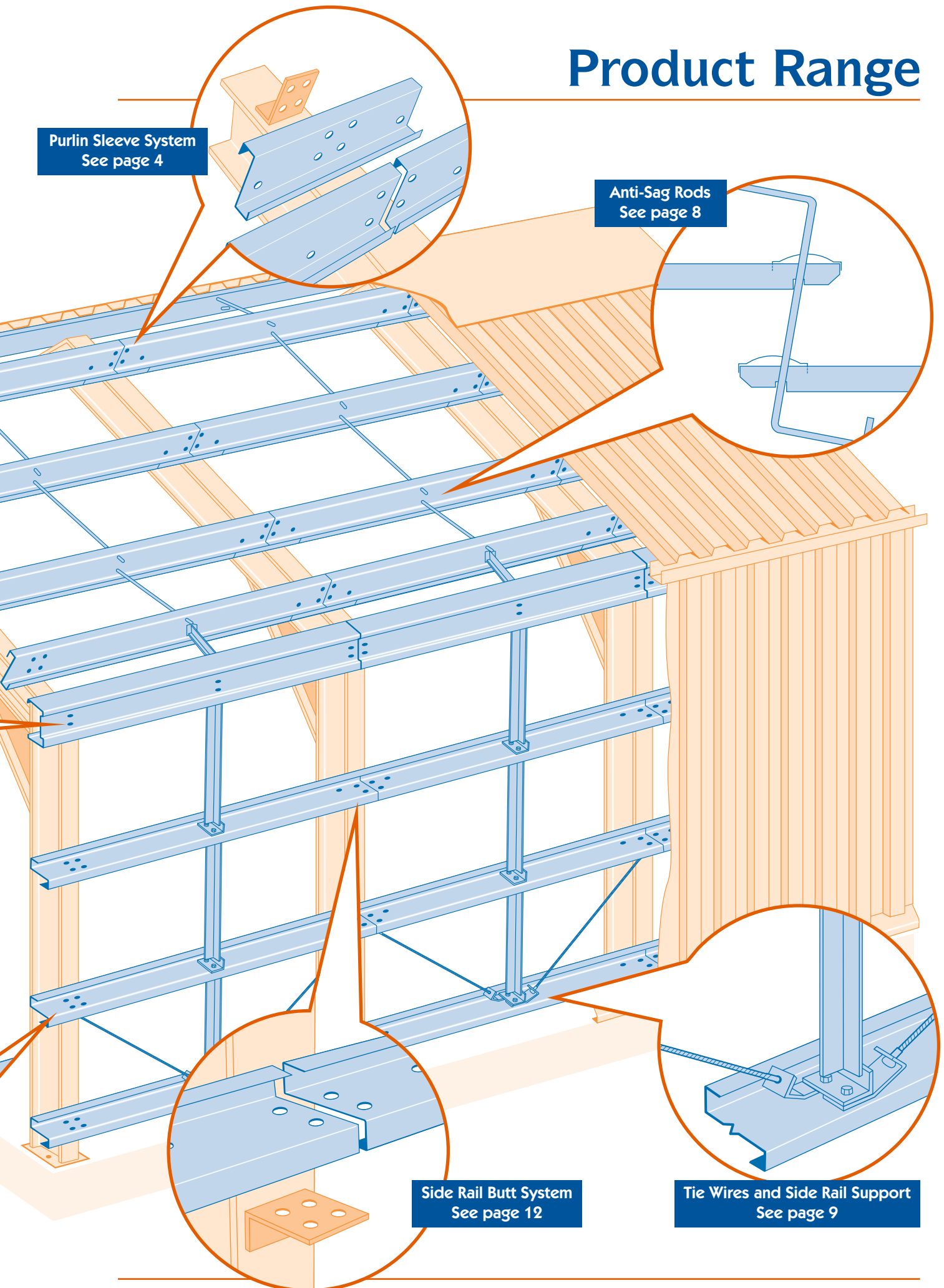
Product Range

Purlin Sleeve System
See page 4

Anti-Sag Rods
See page 8

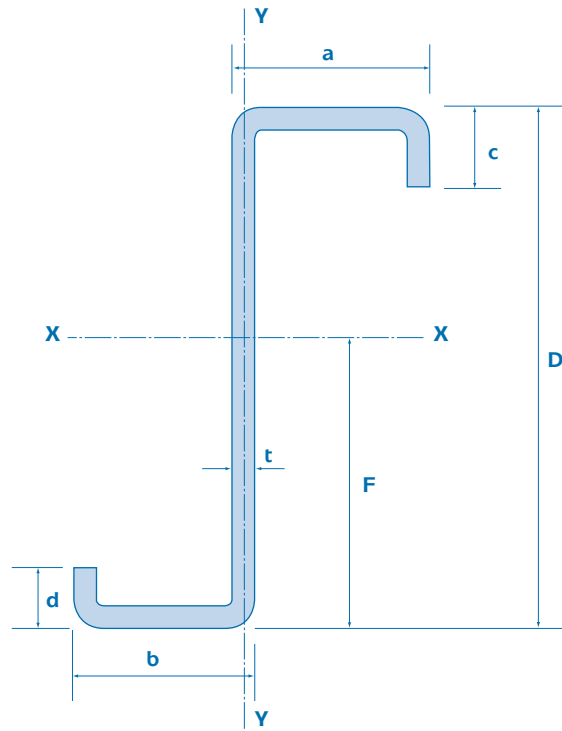
Side Rail Butt System
See page 12

Tie Wires and Side Rail Support
See page 9



Zed Purlin

Purlins



Section Dimensions and Properties - Metric

Section Number	Depth	Thick-ness	Top Flange	Bottom Flange	Top Lip	Bottom Lip	Wt/m.	Area	IXX	ZXX	IYY	ZYY	F
	'D' mm	't' mm	'a' mm	'b' mm	'c' mm	'd' mm	Kg	cm ²	cm ⁴	cm ³	cm ⁴	cm ³	mm
12115	121	1.5	55	50	18	16	2.945	3.749	88.26	14.28	26.03	5.07	61.70
12116	121	1.6	55	50	18	16	3.182	4.052	95.13	15.40	27.94	5.36	61.70
14015	140	1.5	55	50	18	16	3.147	4.015	126.12	17.57	26.40	5.08	71.20
14016	140	1.6	55	50	18	16	3.374	4.340	136.32	18.99	28.41	5.36	71.20
14018	140	1.8	55	50	18	16	3.737	4.710	145.22	20.66	30.18	5.94	71.20
14020	140	2.0	55	50	18	16	4.141	5.211	160.06	22.71	33.06	6.54	71.20
17715	177	1.5	55	50	18	16	3.507	4.507	219.03	24.29	26.97	5.29	89.00
17716	177	1.6	55	50	18	16	3.787	4.680	223.11	25.98	28.81	5.61	89.00
17718	177	1.8	55	50	18	16	4.284	5.409	261.07	28.99	32.01	6.22	89.00
17720	177	2.0	55	50	18	16	4.756	6.073	288.26	32.01	35.13	6.83	89.00
20018	200	1.8	61	55	17	17	4.76	6.109	378.67	37.50	38.54	6.12	100.98
20020	200	2.0	61	55	17	17	5.30	6.790	418.28	41.42	43.36	6.88	100.98
20025	200	2.5	61	55	17	17	6.58	8.378	515.51	51.05	53.00	8.42	100.98

Steel Sections Zed Purlins are manufactured from prime pre-galvanised steel coil to BS EN 10326:2004 specification giving guaranteed minimum yield strength of 390 N/mm² - cut to exact length and suitably packed for UK or export requirements.

Details and Dimension

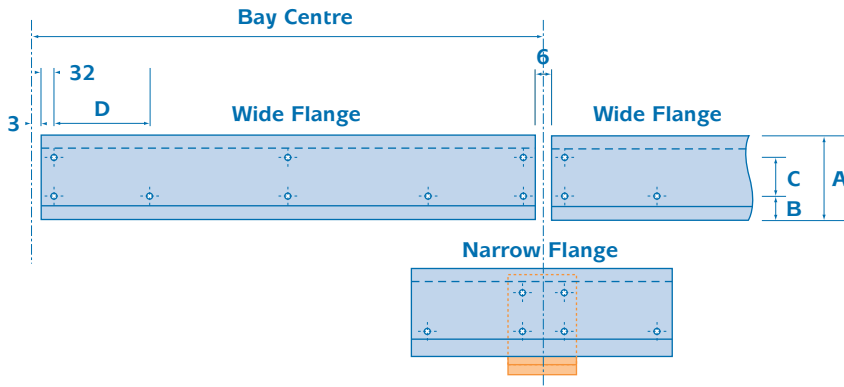
Holes and dimensions are for roof purlins and side rails, all dimensions in millimetres.

All holes 18mm for 16mm dia. bolts. Clearance joint between purlins/side rails 6mm.

'Easy fix' anti-sag rods may be required to give additional stability for spans over 4.5 metres.

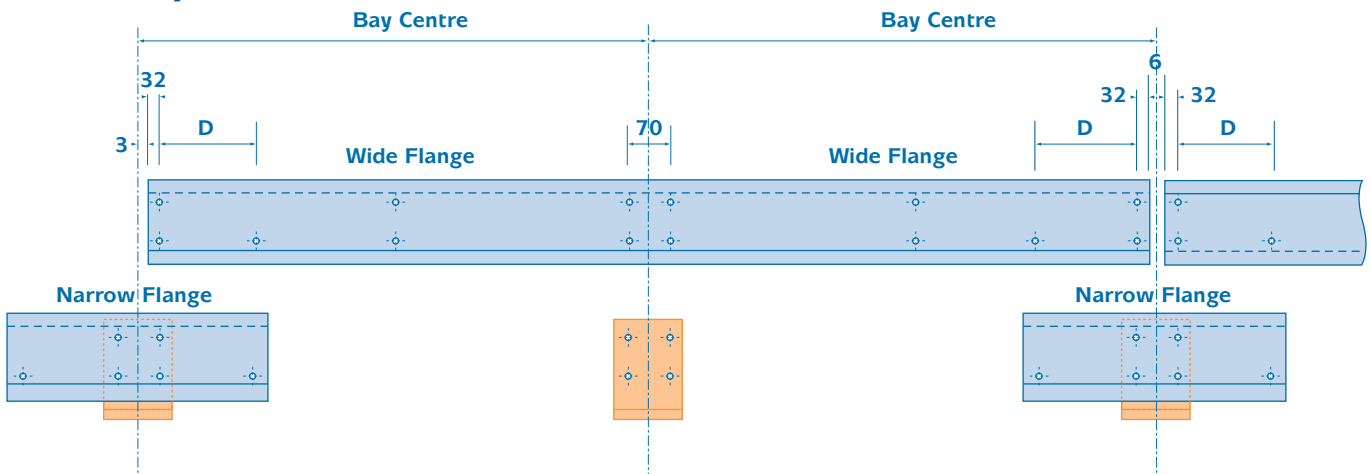
Recommended fixing details for sag-robots are shown on page 8.

Single Span

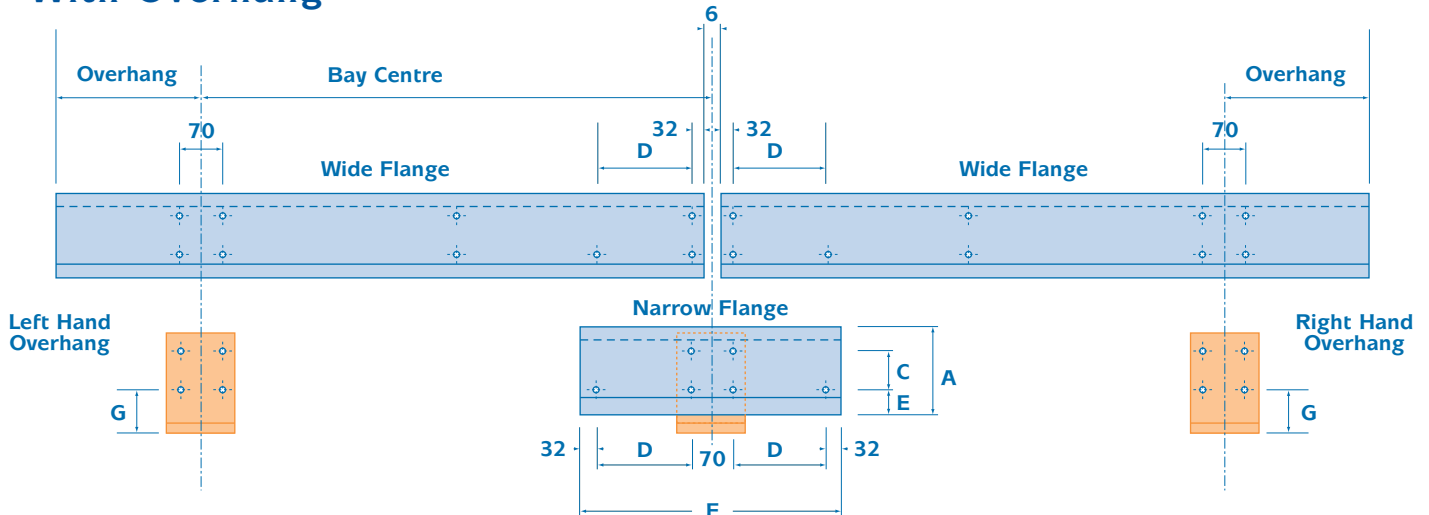


Sleeved System						
Detailing Dimensions in mm						
A	B	C	D	E	F	G
121	40	40	150	42	434	50
140	40	60	208	42	550	50
177	40	80	208	42	550	50
200	40	116	208	43	550	50

Double Span



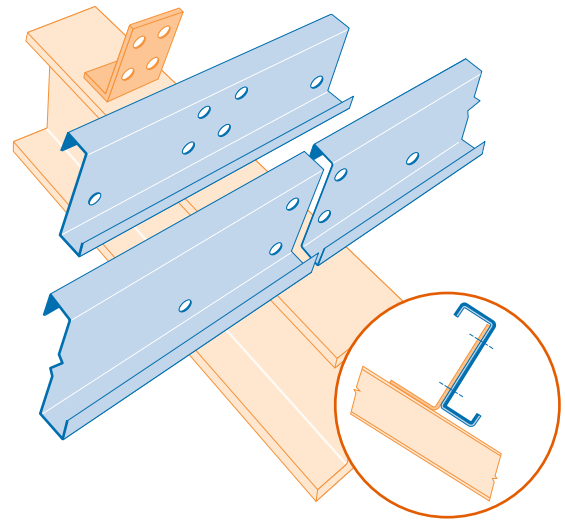
With Overhang



Zed Purlin Sleeved Systems

Performance

The performance of the systems shown in the tables below have been derived by calculation in accordance with BS 5950 Part 5. Purlin load tables are valid up to and including 25° roof slopes.



Performance

Loading	Factor
Dead load	1.40
Dead load restraining uplift or overturning	1.00
Dead load acting with wind and imposed loads combined	1.20
Imposed load	1.60
Imposed load acting with wind load	1.20
Wind load	1.40
Wind load acting with imposed load	1.20
Forces due to temperature effects	1.20
Drifting Snow	1.05

Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))					Allowable Loads kN/m ²				
			1000	1200	1375	1500	1675	1800	2000	2500		
3.5	12115	11.61	3.32	2.76	2.42	2.21	1.98	1.84	1.66	1.33		
	12116	12.47	3.56	2.97	2.59	2.38	2.13	1.98	1.78	1.43		
	14015	12.57	3.59	2.99	2.61	2.39	2.14	1.99	1.80	1.44		
	14016	13.53	3.87	3.22	2.81	2.58	2.31	2.15	1.93	1.55		
	14018	14.37	4.11	3.42	2.99	2.74	2.45	2.28	2.05	1.64		
	14020	15.74	4.50	3.75	3.27	3.00	2.68	2.50	2.25	1.80		
	17715	16.04	4.58	3.82	3.33	3.05	2.74	2.55	2.29	1.83		
	17716	17.14	4.90	4.08	3.56	3.26	2.92	2.72	2.45	1.96		
	17718	19.04	5.44	4.53	3.96	3.63	3.25	3.02	2.72	2.18		
	17720	20.90	5.97	4.98	4.34	3.98	3.57	3.32	2.99	2.39		
	20018	22.93	6.55	5.46	4.76	4.37	3.91	3.64	3.28	2.62		
	20020	25.79	7.37	6.14	5.36	4.91	4.40	4.09	3.68	2.95		
20025	31.53	9.00	7.50	6.55	6.00	5.37	5.00	4.50	3.60			
4.0	12115	9.70	2.43	2.02	1.76	1.62	1.45	1.35	1.22	0.97		
	12116	10.41	2.60	2.17	1.89	1.74	1.55	1.45	1.30	1.04		
	14015	10.56	2.64	2.20	1.92	1.76	1.58	1.47	1.32	1.06		
	14016	11.37	2.84	2.37	2.07	1.90	1.70	1.58	1.42	1.14		
	14018	12.08	3.02	2.52	2.20	2.01	1.80	1.68	1.51	1.21		
	14020	13.23	3.31	2.76	2.41	2.21	1.97	1.84	1.65	1.32		
	17715	13.61	3.40	2.84	2.47	2.27	2.03	1.89	1.70	1.36		
	17716	14.54	3.64	3.03	2.64	2.42	2.17	2.02	1.82	1.45		
	17718	16.16	4.04	3.37	2.94	2.70	2.41	2.24	2.02	1.62		
	17720	17.73	4.43	3.69	3.22	2.96	2.65	2.46	2.22	1.77		
	20018	19.45	4.86	4.05	3.53	3.24	2.90	2.70	2.43	1.95		
	20020	21.88	5.47	4.56	3.98	3.65	3.27	3.04	2.74	2.19		
20025	26.75	6.69	5.57	4.86	4.46	3.98	3.71	3.34	2.68			
4.5	12115	7.67	1.70	1.42	1.24	1.14	1.02	0.95	0.85	0.68		
	12116	8.23	1.83	1.52	1.33	1.22	1.09	1.02	0.91	0.73		
	14015	9.24	2.05	1.71	1.49	1.37	1.23	1.14	1.03	0.82		
	14016	9.95	2.21	1.84	1.61	1.47	1.32	1.23	1.10	0.88		
	14018	10.57	2.35	1.96	1.71	1.57	1.40	1.30	1.17	0.94		
	14020	11.58	2.57	2.14	1.87	1.71	1.54	1.43	1.29	1.03		
	17715	12.05	2.68	2.23	1.95	1.79	1.60	1.49	1.34	1.07		
	17716	12.88	2.86	2.38	2.08	1.91	1.71	1.59	1.43	1.14		
	17718	14.31	3.18	2.65	2.31	2.12	1.90	1.77	1.59	1.27		
	17720	15.70	3.49	2.91	2.54	2.33	2.08	1.94	1.74	1.39		
	20018	16.79	3.73	3.11	2.71	2.49	2.23	2.07	1.87	1.49		
	20020	18.89	4.20	3.50	3.05	2.80	2.50	2.33	2.10	1.68		
20025	23.10	5.13	4.28	3.73	3.42	3.06	2.85	2.57	2.05			

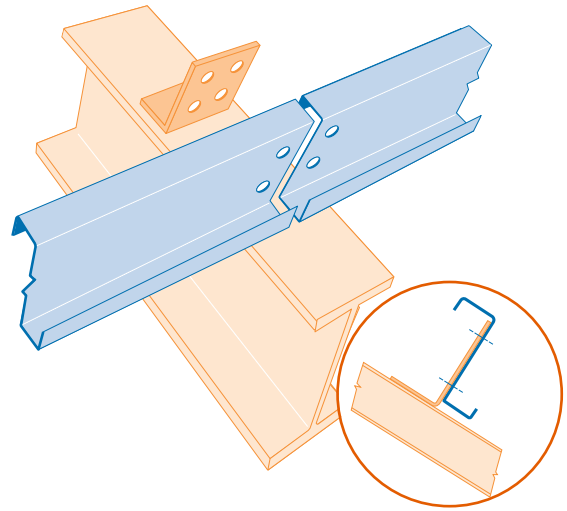
Zed Purlin Sleeved Systems

Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))				Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500
5.0	12115	6.83	1.37	1.14	0.99	0.91	0.82	0.76	0.68	0.55
	12116	7.33	1.47	1.22	1.07	0.98	0.88	0.81	0.73	0.59
	14015	8.27	1.65	1.38	1.20	1.10	0.99	0.92	0.83	0.66
	14016	8.90	1.78	1.48	1.30	1.19	1.06	0.99	0.89	0.71
	14018	9.46	1.89	1.58	1.38	1.26	1.13	1.05	0.95	0.76
	14020	10.36	2.07	1.73	1.51	1.38	1.24	1.15	1.04	0.83
	17715	10.89	2.18	1.81	1.58	1.45	1.30	1.21	1.09	0.87
	17716	11.63	2.33	1.94	1.69	1.55	1.39	1.29	1.16	0.93
	17718	12.92	2.58	2.15	1.88	1.72	1.54	1.43	1.29	1.03
	17720	14.18	2.84	2.36	2.06	1.89	1.69	1.58	1.42	1.13
	20018	14.98	3.00	2.50	2.18	2.00	1.79	1.66	1.50	1.20
	20020	16.86	3.37	2.81	2.45	2.25	2.00	1.87	1.69	1.35
20025	20.60	4.12	3.43	2.98	2.75	2.46	2.29	2.06	1.65	
5.5	14015	7.27	1.32	1.10	0.96	0.88	0.79	0.73	0.66	0.53
	14016	7.80	1.42	1.18	1.03	0.95	0.85	0.79	0.71	0.57
	14018	8.31	1.51	1.26	1.10	1.00	0.90	0.84	0.75	0.60
	14020	9.10	1.66	1.38	1.20	1.10	0.99	0.92	0.83	0.66
	17715	9.95	1.81	1.51	1.32	1.21	1.08	1.00	0.90	0.72
	17716	10.63	1.93	1.61	1.40	1.29	1.15	1.07	0.97	0.77
	17718	11.81	2.15	1.79	1.56	1.43	1.28	1.19	1.07	0.86
	17720	12.97	2.36	1.96	1.71	1.57	1.41	1.31	1.18	0.94
	20018	13.65	2.48	2.07	1.80	1.65	1.48	1.38	1.24	0.99
	20020	15.35	2.79	2.33	2.02	1.86	1.66	1.55	1.40	1.12
	20025	18.39	3.34	2.79	2.43	2.23	1.99	1.86	1.67	1.34
	6.0	14015	6.21	1.03	0.86	0.75	0.69	0.62	0.57	0.52
14016		6.68	1.11	0.93	0.81	0.74	0.66	0.62	0.56	0.45
14018		7.09	1.18	0.98	0.86	0.79	0.71	0.66	0.59	0.47
14020		7.77	1.30	1.08	0.94	0.86	0.77	0.72	0.65	0.52
17715		8.94	1.49	1.24	1.08	0.99	0.89	0.83	0.74	0.60
17716		9.54	1.59	1.33	1.16	1.06	0.95	0.88	0.79	0.63
17718		10.60	1.77	1.47	1.29	1.18	1.06	0.98	0.88	0.71
17720		11.64	1.94	1.62	1.41	1.29	1.16	1.08	0.97	0.78
20018		12.35	2.06	1.72	1.49	1.37	1.23	1.14	1.03	0.82
20020		14.05	2.34	1.95	1.70	1.56	1.39	1.30	1.17	0.94
20025		16.80	2.80	2.33	2.03	1.87	1.67	1.55	1.40	1.12
6.5		17715	7.98	1.23	1.02	0.89	0.82	0.73	0.68	0.61
	17716	8.52	1.31	1.09	0.95	0.87	0.78	0.73	0.66	0.52
	17718	9.47	1.46	1.21	1.06	0.97	0.87	0.81	0.73	0.58
	17720	10.39	1.60	1.33	1.16	1.07	0.95	0.89	0.80	0.64
	20018	11.54	1.78	1.48	1.29	1.18	1.06	0.98	0.89	0.71
	20020	12.98	2.00	1.66	1.45	1.33	1.19	1.11	1.00	0.80
	20025	15.67	2.41	2.01	1.75	1.61	1.44	1.34	1.21	0.96
7.0	20018	10.19	1.46	1.21	1.06	0.97	0.87	0.81	0.73	0.58
	20020	11.61	1.66	1.38	1.20	1.11	0.99	0.92	0.83	0.66
	20025	14.19	2.03	1.69	1.47	1.35	1.21	1.13	1.01	0.81
7.5	20020	10.11	1.35	1.12	0.98	0.90	0.80	0.75	0.67	0.54
	20025	12.36	1.65	1.37	1.20	1.10	0.98	0.92	0.82	0.66
8.0	20025	10.18	1.27	1.06	0.92	0.85	0.76	0.71	0.64	0.51
8.5	20025	8.49	1.00	0.83	0.73	0.67	0.60	0.55	0.50	0.40

Zed Purlin Butt Systems

Performance

The performance of the systems shown in the table below have been derived by calculation in accordance with BS 5950 Part 5. Purlin load tables are valid up to and including 25° roof slopes.



Performance

Loading	Factor
Dead load	1.40
Dead load restraining uplift or overturning	1.00
Dead load acting with wind and imposed loads combined	1.20
Imposed load	1.60
Imposed load acting with wind load	1.20
Wind load	1.40
Wind load acting with imposed load	1.20
Forces due to temperature effects	1.20
Drifting Snow	1.05

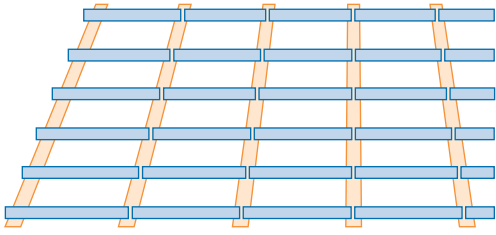
Span Metres	Section	U.D.L. kN	Allowable Loads kN/m ²							
			1000	1200	1375	1500	1675	1800	2000	2500
3.5	12115	8.36	2.39	1.99	1.74	1.59	1.43	1.33	1.19	0.96
	12116	8.98	2.57	2.14	1.87	1.71	1.53	1.43	1.28	1.03
	14015	10.77	3.08	2.56	2.24	2.05	1.84	1.71	1.54	1.23
	14016	11.59	3.31	2.76	2.41	2.21	1.98	1.84	1.66	1.32
	14018	12.31	3.52	2.93	2.56	2.34	2.10	1.95	1.76	1.41
	14020	13.49	3.85	3.21	2.80	2.57	2.30	2.14	1.93	1.54
	17715	11.55	3.30	2.75	2.40	2.20	1.97	1.83	1.65	1.32
	17716	12.35	3.53	2.94	2.57	2.35	2.11	1.96	1.76	1.41
	17718	13.72	3.92	3.27	2.85	2.61	2.34	2.18	1.96	1.57
	17720	15.05	4.30	3.58	3.13	2.87	2.57	2.39	2.15	1.72
	20018	17.08	4.88	4.07	3.55	3.25	2.92	2.71	2.44	1.95
	20020	19.22	5.49	4.58	3.99	3.66	3.27	3.05	2.75	2.20
20025	23.49	6.71	5.59	4.88	4.47	4.00	3.73	3.35	2.68	
4.0	12115	6.40	1.60	1.33	1.16	1.07	0.96	0.89	0.80	0.64
	12116	6.87	1.72	1.43	1.25	1.15	1.03	0.95	0.86	0.69
	14015	8.51	2.13	1.77	1.55	1.42	1.27	1.18	1.06	0.85
	14016	9.16	2.29	1.91	1.66	1.53	1.37	1.27	1.15	0.92
	14018	9.73	2.43	2.03	1.77	1.62	1.45	1.35	1.22	0.97
	14020	10.66	2.67	2.22	1.94	1.78	1.59	1.48	1.33	1.07
	17715	10.20	2.55	2.13	1.85	1.70	1.52	1.42	1.28	1.02
	17716	10.90	2.73	2.27	1.98	1.82	1.63	1.51	1.36	1.09
	17718	12.11	3.03	2.52	2.20	2.02	1.81	1.68	1.51	1.21
	17720	13.29	3.32	2.77	2.42	2.22	1.98	1.85	1.66	1.33
	20018	14.58	3.65	3.04	2.65	2.43	2.18	2.03	1.82	1.46
	20020	16.41	4.10	3.42	2.98	2.74	2.45	2.28	2.05	1.64
20025	20.05	5.01	4.18	3.64	3.34	3.00	2.78	2.50	2.00	
4.5	12115	5.06	1.12	0.94	0.82	0.75	0.67	0.62	0.56	0.45
	12116	5.43	1.21	1.01	0.88	0.80	0.72	0.67	0.60	0.48
	14015	6.96	1.55	1.29	1.12	1.03	0.92	0.86	0.77	0.62
	14016	7.49	1.66	1.39	1.21	1.11	0.99	0.92	0.83	0.66
	14018	7.95	1.77	1.47	1.29	1.18	1.05	0.98	0.88	0.71
	14020	8.71	1.94	1.61	1.41	1.29	1.16	1.08	0.97	0.77
	17715	9.11	2.03	1.69	1.47	1.35	1.21	1.13	1.01	0.81
	17716	9.74	2.16	1.80	1.57	1.44	1.29	1.20	1.08	0.87
	17718	10.82	2.40	2.00	1.75	1.60	1.44	1.33	1.20	0.96
	17720	11.87	2.64	2.20	1.92	1.76	1.58	1.47	1.32	1.06
	20018	12.49	2.78	2.31	2.02	1.85	1.66	1.54	1.39	1.11
	20020	14.20	3.16	2.63	2.30	2.10	1.88	1.75	1.58	1.26
20025	17.17	3.82	3.18	2.78	2.54	2.28	2.12	1.91	1.53	

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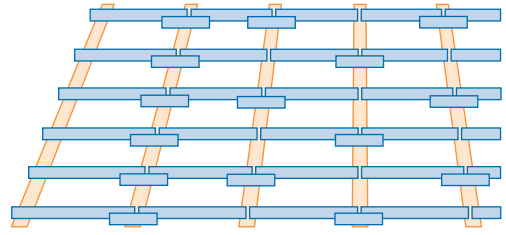
Zed Purlin Butt Systems

Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))				Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500
5.0	12115	4.55	0.91	0.76	0.66	0.61	0.54	0.51	0.46	0.36
	12116	4.89	0.98	0.81	0.71	0.65	0.58	0.54	0.49	0.39
	14015	5.83	1.17	0.97	0.85	0.78	0.70	0.65	0.58	0.47
	14016	6.28	1.26	1.05	0.91	0.84	0.75	0.70	0.063	0.50
	14018	6.67	1.33	1.11	0.97	0.89	0.80	0.74	0.67	0.53
	14020	7.30	1.46	1.22	1.06	0.97	0.87	0.81	0.73	0.58
	17715	8.09	1.62	1.35	1.18	1.08	0.97	0.90	0.81	0.65
	17716	8.64	1.73	1.44	1.26	1.15	1.03	0.96	0.86	0.69
	17718	9.60	1.92	1.60	1.40	1.28	1.15	1.07	0.96	0.77
	17720	10.54	2.11	1.76	1.53	1.40	1.26	1.17	1.05	0.84
	20018	11.03	2.21	1.84	1.60	1.47	1.32	1.23	1.10	0.88
	20020	13.00	2.60	2.17	1.90	1.73	1.56	1.44	1.30	1.04
	20025	15.17	3.03	2.53	2.20	2.02	1.80	1.69	1.52	1.21
5.5	14015	5.00	0.91	0.76	0.66	0.61	0.54	0.50	0.45	0.36
	14016	5.38	0.98	0.81	0.71	0.65	0.58	0.54	0.49	0.39
	14018	5.71	1.04	0.87	0.76	0.69	0.62	0.58	0.52	0.42
	14020	6.26	1.14	0.95	0.83	0.76	0.68	0.63	0.57	0.46
	17715	7.02	1.28	1.06	0.93	0.85	0.76	0.71	0.64	0.51
	17716	7.50	1.36	1.14	0.99	0.91	0.81	0.76	0.68	0.55
	17718	8.33	1.51	1.26	1.10	1.01	0.90	0.84	0.76	0.61
	17720	9.14	1.66	1.39	1.21	1.11	0.99	0.92	0.83	0.66
	20018	9.55	1.74	1.45	1.26	1.16	1.04	0.96	0.87	0.69
	20020	11.28	2.05	1.71	1.49	1.37	1.23	1.14	1.03	0.82
20025	13.14	2.39	1.99	1.74	1.59	1.43	1.33	1.19	0.96	
6.0	14015	4.36	0.73	0.61	0.53	0.48	0.43	0.40	0.36	0.29
	14016	4.69	0.78	0.65	0.57	0.52	0.47	0.43	0.39	0.31
	14018	4.98	0.83	0.69	0.60	0.55	0.50	0.46	0.42	0.33
	14020	5.46	0.91	0.76	0.66	0.61	0.54	0.51	0.45	0.36
	17715	5.55	0.93	0.77	0.67	0.62	0.55	0.51	0.46	0.37
	17716	5.93	0.99	0.82	0.72	0.66	0.59	0.55	0.49	0.40
	17718	6.59	1.10	0.91	0.80	0.73	0.66	0.61	0.55	0.44
	17720	7.23	1.21	1.00	0.88	0.80	0.72	0.67	0.60	0.48
	20018	8.22	1.37	1.14	0.99	0.91	0.82	0.76	0.69	0.55
	20020	9.48	1.58	1.32	1.15	1.05	0.94	0.88	0.79	0.63
20025	11.31	1.89	1.57	1.38	1.26	1.12	1.05	0.94	0.75	
6.5	17715	4.37	0.67	0.56	0.49	0.45	0.40	0.37	0.34	0.27
	17716	4.67	0.72	0.60	0.52	0.48	0.43	0.40	0.36	0.29
	17718	5.19	0.80	0.66	0.58	0.53	0.48	0.44	0.40	0.32
	17720	5.69	0.88	0.73	0.64	0.58	0.52	0.49	0.44	0.35
	20018	7.09	1.09	0.91	0.80	0.73	0.65	0.61	0.55	0.44
	20020	8.08	1.24	1.04	0.90	0.83	0.74	0.69	0.62	0.50
	20025	9.75	1.50	1.25	1.09	1.00	0.90	0.83	0.75	0.60
7.0	20018	6.19	0.88	0.74	0.64	0.59	0.54	0.49	0.44	0.35
	20020	6.97	1.00	0.83	0.73	0.66	0.60	0.55	0.50	0.40
	20025	8.51	1.22	1.01	0.89	0.81	0.73	0.68	0.61	0.49
7.5	20020	5.66	0.75	0.63	0.55	0.50	0.45	0.42	0.38	0.30
	20025	6.92	0.92	0.77	0.69	0.62	0.55	0.51	0.46	0.37
8.0	20025	5.70	0.71	0.59	0.52	0.48	0.42	0.40	0.36	0.29
8.5	20025	4.76	0.56	0.47	0.41	0.37	0.33	0.31	0.28	0.22

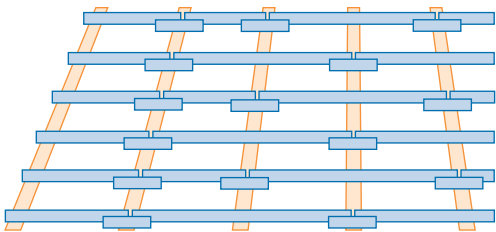
Typical Purlin Layouts



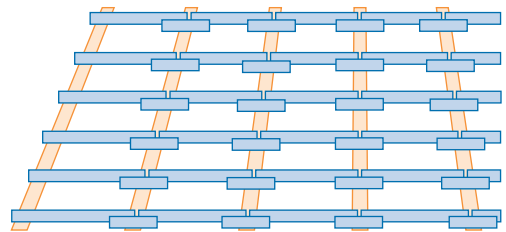
Butt purlin arrangement



Staggered sleeve arrangement



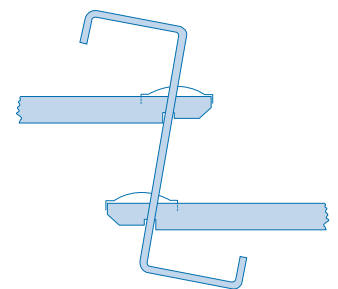
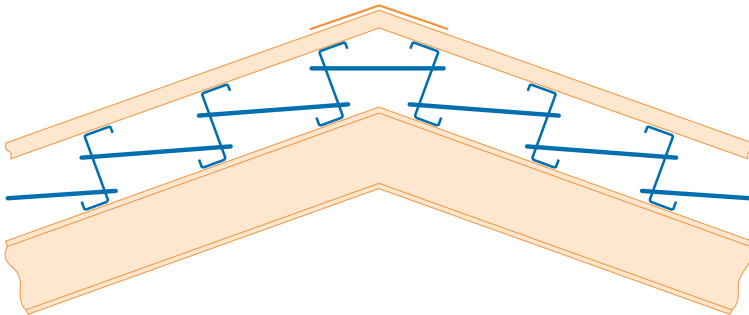
Double span with sleeves



Fully sleeved arrangement

Anti-Sag Rod Fixings

'Easy Fix' anti-sag rods form an integral part of the roofing system and fulfil important functions in stabilising the purlins during erection and fixing of the roof cladding and subsequently under loading, particularly wind suction.

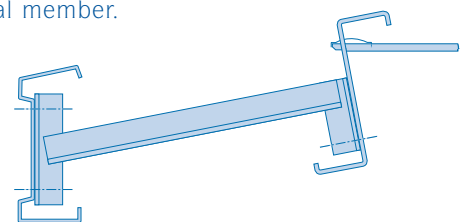
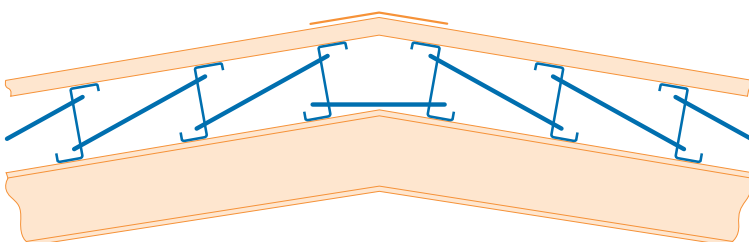


Easy-fix anti-sag rods

For roof slopes of 10° or more: – Sag rods should be fixed continuously over the apex and fixed from the bottom hole to top hole down the slope.

Below 10° pitch fixing is reversed: – Where the slope is below 10° then the sag rods are fixed as shown below.

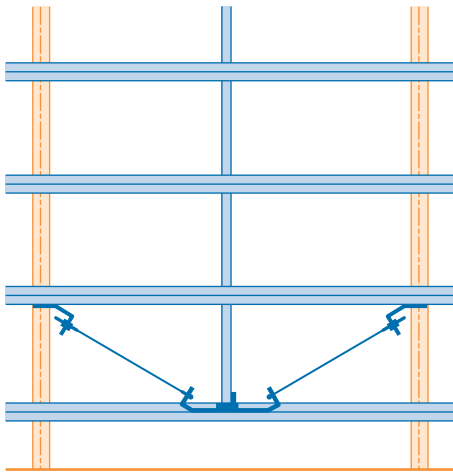
We also recommend that the lowest purlin is connected to the eaves structural member.



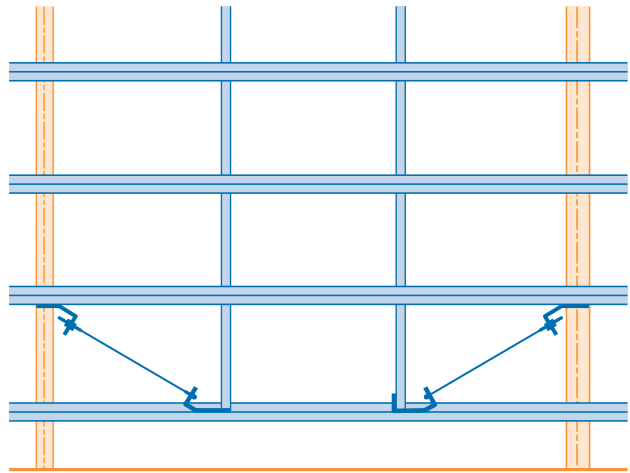
Eaves beam bracket

Purlins

Diagonal Tie Wires

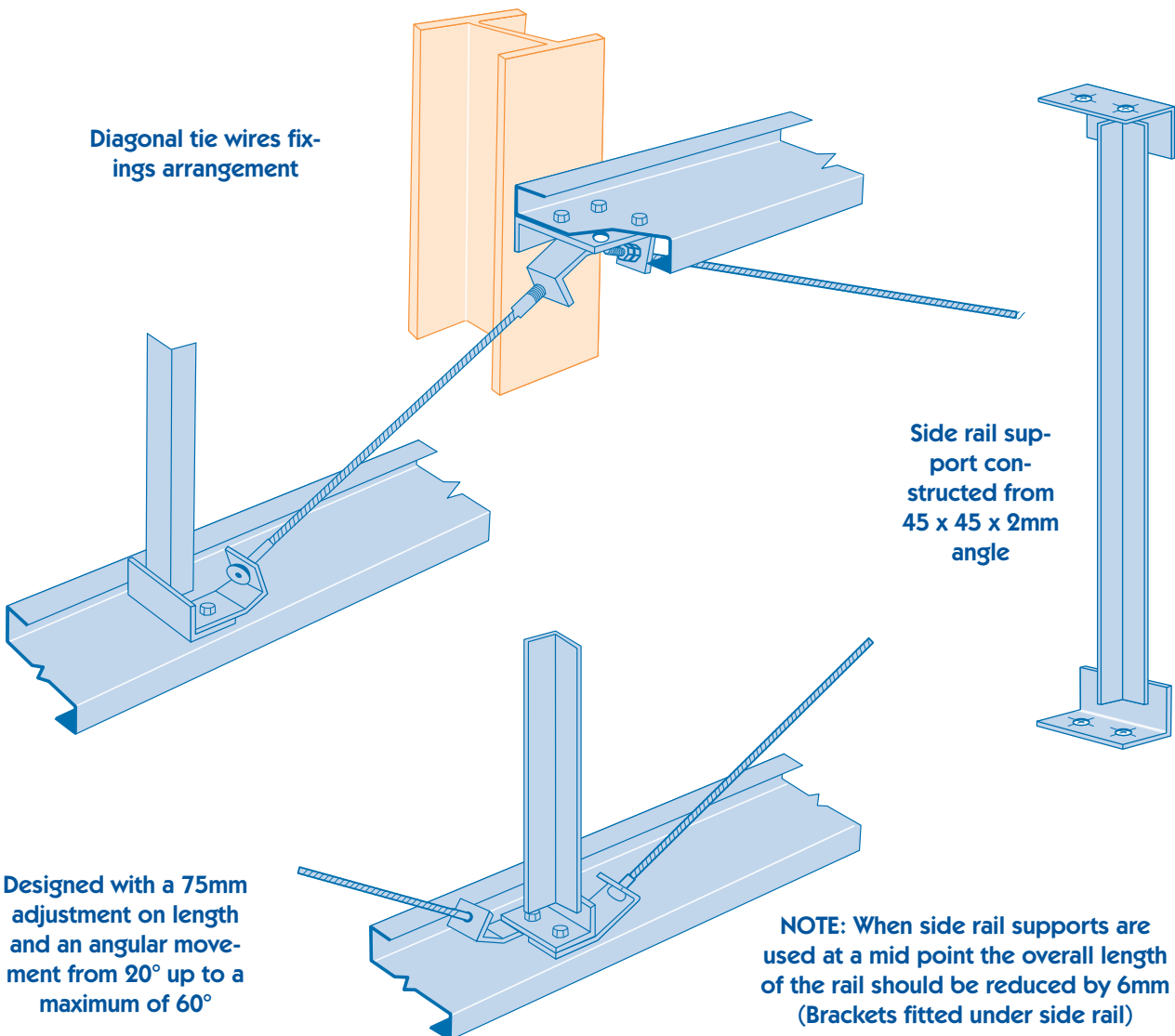


Spans up to 6.0 metres
Single side rail support arrangement



Spans over 6.0 metres
Double side rail support arrangement

Diagonal tie wires fixings arrangement



Side rail support constructed from 45 x 45 x 2mm angle

Designed with a 75mm adjustment on length and an angular movement from 20° up to a maximum of 60°

NOTE: When side rail supports are used at a mid point the overall length of the rail should be reduced by 6mm (Brackets fitted under side rail)

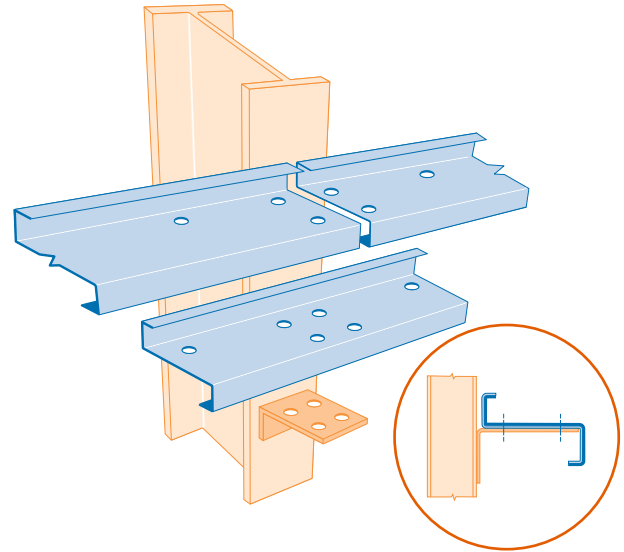
Side Rail Sleeve System Purlins

Metric load tables for sleeved side rails for spans up to 8.5 metres.

Types of Cladding

The loads shown relate directly to metal cladding and allowance for its weight has been made. Figures shown are for horizontal wind pressure and assume 1 row of side rail supports at mid span up to 6 metres and 2 rows for larger spans.

For suction multiply values by a factor of 0.8.



Asbestos Cladding

Spans up to 5.5 metres – 1 row of side rail supports at mid span.

Spans over 5.5 metres – 2 rows of side rail supports.

Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))					Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500	
3.5	12115	12.77	3.65	3.04	2.65	2.43	2.18	2.03	1.82	1.46	
	12116	13.72	3.92	3.27	2.85	2.61	2.34	2.18	1.96	1.57	
	14015	13.51	3.86	3.22	2.81	2.57	2.30	2.14	1.93	1.54	
	14016	14.54	4.15	3.46	3.02	2.77	2.48	2.31	2.08	1.66	
	14018	15.44	4.41	3.68	3.21	2.94	2.63	2.45	2.21	1.76	
	14020	16.92	4.83	4.03	3.52	3.22	2.89	2.69	2.42	1.93	
	17715	16.44	4.70	3.91	3.42	3.13	2.80	2.61	2.35	1.88	
	17716	17.57	5.02	4.18	3.65	3.35	3.00	2.79	2.51	2.01	
	17718	19.52	5.58	4.65	4.06	3.72	3.33	3.10	2.79	2.23	
	17720	21.42	6.12	5.10	4.45	4.08	3.65	3.40	3.06	2.45	
	20018	25.22	7.21	6.00	5.24	4.80	4.30	4.00	3.60	2.88	
	20020	28.88	8.25	6.88	6.00	5.50	4.92	4.58	4.13	3.30	
20025	33.11	9.46	7.88	6.88	6.31	5.64	5.26	4.73	3.78		
4.0	12115	10.67	2.67	2.22	1.94	1.78	1.59	1.48	1.33	1.07	
	12116	11.45	2.86	2.38	2.08	1.91	1.71	1.59	1.43	1.15	
	14015	11.35	2.84	2.36	2.06	1.89	1.69	1.58	1.42	1.14	
	14016	12.22	3.06	2.55	2.22	2.04	1.82	1.70	1.53	1.22	
	14018	12.99	3.25	2.71	2.36	2.17	1.94	1.80	1.62	1.30	
	14020	14.22	3.56	2.96	2.59	2.37	2.12	1.98	1.78	1.42	
	17715	13.95	3.49	2.91	2.54	2.33	2.08	1.94	1.74	1.40	
	17716	14.90	3.73	3.10	2.71	2.48	2.22	2.07	1.86	1.49	
	17718	16.56	4.14	3.45	3.01	2.76	2.47	2.30	2.07	1.66	
	17720	18.17	4.54	3.79	3.30	3.03	2.71	2.52	2.27	1.82	
	20018	21.40	5.35	4.46	3.90	3.57	3.19	2.97	2.68	2.14	
	20020	24.50	6.13	5.10	4.45	4.08	3.66	3.40	3.06	2.45	
20025	28.09	7.02	5.85	5.10	4.68	4.20	3.90	3.51	2.81		
4.5	12115	8.44	1.87	1.56	1.36	1.25	1.12	1.04	0.94	0.75	
	12116	9.05	2.01	1.68	1.46	1.34	1.20	1.12	1.01	0.80	
	14015	9.94	2.21	1.84	1.61	1.47	1.32	1.23	1.10	0.88	
	14016	10.70	2.38	1.98	1.73	1.58	1.42	1.32	1.19	0.95	
	14018	11.36	2.52	2.10	1.84	1.68	1.51	1.40	1.26	1.01	
	14020	12.44	2.76	2.30	2.01	1.84	1.65	1.54	1.38	1.11	
	17715	12.35	2.74	2.29	2.00	1.83	1.64	1.53	1.37	1.10	
	17716	13.20	2.93	2.44	2.13	1.96	1.75	1.63	1.47	1.17	
	17718	14.66	3.26	2.72	2.37	2.17	1.95	1.81	1.63	1.30	
	17720	16.09	3.58	2.98	2.60	2.38	2.14	1.99	1.79	1.43	
	20018	18.47	4.10	3.42	2.98	2.74	2.44	2.28	2.05	1.64	
	20020	21.16	4.70	3.92	3.42	3.13	2.80	2.61	2.35	1.88	
20025	24.26	5.39	4.49	3.92	3.59	3.22	3.00	2.70	2.16		

Purlins

Side Rail Sleeve System

Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))					Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500	
5.0	12115	7.51	1.50	1.25	1.09	1.00	0.90	0.83	0.75	0.60	
	12116	8.06	1.61	1.34	1.17	1.08	0.96	0.90	0.81	0.65	
	14015	8.90	1.78	1.48	1.29	1.19	1.06	0.99	0.89	0.71	
	14016	9.57	1.91	1.60	1.39	1.28	1.14	1.06	0.96	0.77	
	14018	10.17	2.03	1.69	1.48	1.36	1.21	1.13	1.02	0.81	
	14020	11.14	2.22	1.86	1.62	1.49	1.33	1.24	1.11	0.89	
	17715	11.16	2.23	1.86	1.62	1.49	1.33	1.24	1.11	0.89	
	17716	11.92	2.38	1.99	1.73	1.59	1.42	1.32	1.19	0.95	
	17718	13.24	2.65	2.21	1.93	1.77	1.58	1.47	1.32	1.06	
	17720	14.54	2.91	2.42	2.11	1.94	1.74	1.62	1.45	1.16	
	20018	16.48	3.30	2.75	2.40	2.20	1.97	1.83	1.65	1.32	
	20020	18.88	3.78	3.15	2.75	2.52	2.25	2.10	1.89	1.51	
	20025	21.63	4.33	3.61	3.15	2.88	2.60	2.40	2.16	1.73	
5.5	14015	7.82	1.42	1.18	1.03	0.95	0.85	0.79	0.71	0.57	
	14016	8.41	1.53	1.27	1.11	1.02	0.91	0.85	0.76	0.61	
	14018	8.93	1.62	1.35	1.18	1.08	0.97	0.90	0.81	0.65	
	14020	9.79	1.78	1.48	1.29	1.19	1.06	0.99	0.89	0.71	
	17715	10.20	1.85	1.55	1.35	1.24	1.11	1.03	0.93	0.74	
	17716	10.90	1.98	1.65	1.44	1.32	1.18	1.10	0.99	0.79	
	17718	12.11	2.20	1.84	1.60	1.47	1.31	1.22	1.10	0.88	
	17720	13.29	2.42	2.01	1.76	1.61	1.44	1.34	1.21	0.97	
	20018	15.01	2.73	2.27	1.98	1.82	1.63	1.52	1.36	1.09	
	20020	17.19	3.13	2.60	2.28	2.08	1.87	1.74	1.56	1.25	
20025	19.31	3.51	2.93	2.55	2.34	2.09	1.95	1.76	1.40		
6.0	14015	6.67	1.11	0.93	0.81	0.74	0.66	0.62	0.56	0.44	
	14016	7.18	1.19	1.00	0.87	0.80	0.71	0.66	0.60	0.48	
	14018	7.63	1.27	1.06	0.92	0.85	0.76	0.71	0.64	0.51	
	14020	8.35	1.39	1.16	1.01	0.93	0.83	0.77	0.70	0.56	
	17715	9.16	1.53	1.27	1.11	1.02	0.91	0.85	0.76	0.61	
	17716	9.78	1.63	1.36	1.19	1.09	0.97	0.91	0.82	0.65	
	17718	10.87	1.81	1.51	1.32	1.21	1.08	1.01	0.91	0.72	
	17720	11.93	1.99	1.66	1.45	1.33	1.19	1.10	0.99	0.80	
	20018	13.59	2.27	1.89	1.65	1.51	1.35	1.26	1.13	0.91	
	20020	15.74	2.62	2.19	1.90	1.75	1.56	1.46	1.31	1.05	
20025	17.64	2.94	2.45	2.14	1.96	1.75	1.63	1.47	1.18		
6.5	17715	8.18	1.26	1.05	0.92	0.84	0.75	0.70	0.63	0.50	
	17716	8.73	1.34	1.12	0.98	0.90	0.80	0.75	0.67	0.54	
	17718	9.70	1.49	1.24	1.09	1.00	0.89	0.83	0.75	0.60	
	17720	10.65	1.64	1.37	1.19	1.09	0.98	0.91	0.82	0.66	
	20018	12.69	1.95	1.63	1.42	1.30	1.16	1.08	0.98	0.78	
	20020	14.53	2.24	1.86	1.63	1.49	1.34	1.24	1.12	0.89	
	20025	16.45	2.53	2.11	1.84	1.69	1.50	1.41	1.27	1.01	
7.0	20018	11.72	1.67	1.40	1.20	1.12	1.00	0.93	0.84	0.67	
	20020	13.35	1.91	1.59	1.39	1.27	1.14	1.06	0.95	0.76	
	20025	15.25	2.18	1.82	1.58	1.45	1.30	1.21	1.09	0.87	
7.5	20020	12.53	1.67	1.39	1.22	1.11	1.00	0.93	0.84	0.67	
	20025	14.21	1.89	1.58	1.37	1.26	1.12	1.05	0.95	0.76	
8.0	20025	12.70	1.59	1.32	1.15	1.06	0.95	0.88	0.79	0.64	
8.5	20025	10.61	1.25	1.04	0.90	0.83	0.75	0.69	0.62	0.50	

Side Rail Butt System Purlins

Side Rail Butt System suitable for buildings with single bays or more.

Types of Cladding

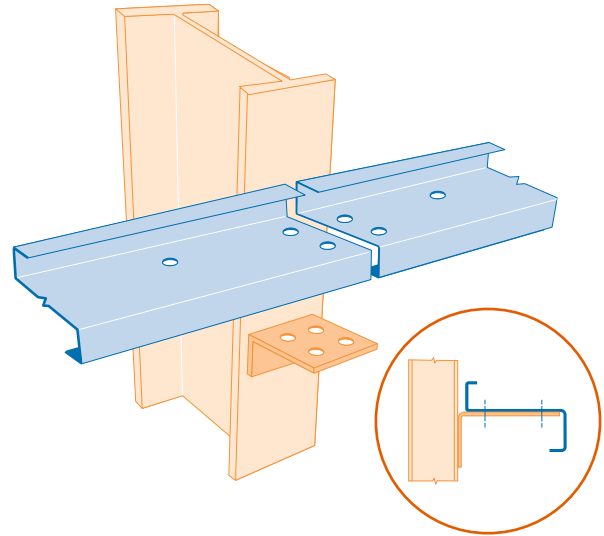
The loads shown relate directly to metal cladding and allowance for its weight has been made. Figures shown are for horizontal wind pressure and assume 1 row of side rail supports at mid span up to 6 metres and 2 rows for larger spans.

For suction multiply values by a factor of 0.8.

Asbestos Cladding

Spans up to 5.5 metres – 1 row of side rail supports at mid span.

Spans over 5.5 metres – 2 rows of side rail supports.

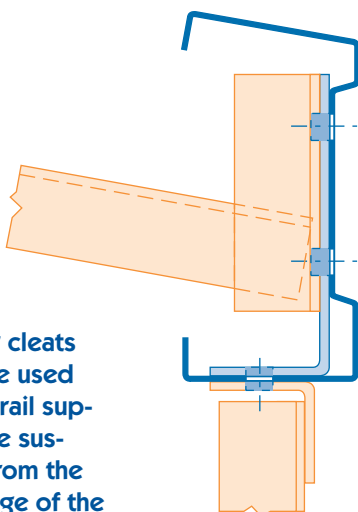
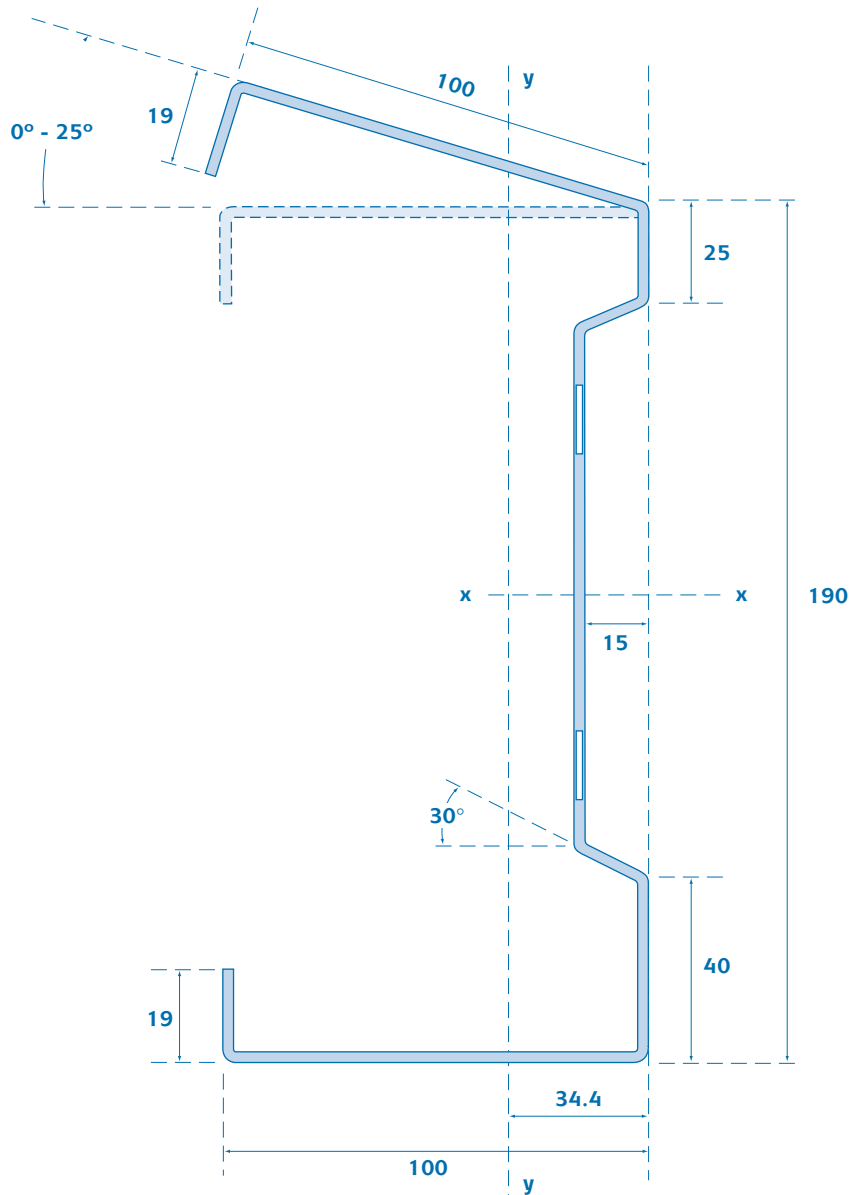


Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))					Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500	
3.5	12115	10.53	3.01	2.51	2.19	2.00	1.80	1.67	1.50	1.20	
	12116	11.32	3.23	2.70	2.35	2.16	1.93	1.80	1.62	1.29	
	14015	11.14	3.18	2.65	2.31	2.12	1.90	1.77	1.59	1.27	
	14016	12.00	3.43	2.86	2.49	2.29	2.05	1.90	1.71	1.37	
	14018	12.74	3.64	3.03	2.65	2.43	2.17	2.02	1.82	1.46	
	14020	13.96	3.99	3.32	2.90	2.66	2.38	2.22	1.99	1.60	
	17715	13.56	3.87	3.23	2.82	2.58	2.31	2.15	1.94	1.55	
	17716	14.50	4.14	3.45	3.01	2.76	2.47	2.30	2.07	1.66	
	17718	16.10	4.60	3.83	3.35	3.07	2.75	2.56	2.30	1.84	
	17720	17.67	5.05	4.21	3.67	3.37	3.01	2.80	2.52	2.02	
	20018	20.80	5.94	4.95	4.32	3.96	3.54	3.30	2.97	2.38	
	20020	23.82	6.81	5.67	4.95	4.54	4.06	3.78	3.40	2.72	
20025	27.32	7.81	6.50	5.68	5.2	4.66	4.34	3.90	3.12		
4.0	12115	8.80	2.20	1.83	1.60	1.47	1.31	1.22	1.10	0.88	
	12116	9.45	2.36	1.97	1.72	1.58	1.41	1.31	1.18	0.95	
	14015	9.36	2.34	1.95	1.70	1.56	1.40	1.30	1.17	0.94	
	14016	10.08	2.52	2.10	1.83	1.68	1.50	1.40	1.26	1.01	
	14018	10.72	2.68	2.23	1.95	1.79	1.60	1.49	1.34	1.07	
	14020	11.73	2.93	2.44	2.13	1.96	1.75	1.63	1.46	1.17	
	17715	11.51	2.88	2.40	2.09	1.92	1.72	1.60	1.44	1.15	
	17716	12.29	3.07	2.56	2.23	2.05	1.83	1.71	1.54	1.23	
	17718	13.66	3.42	2.85	2.48	2.28	2.04	1.90	1.71	1.37	
	17720	15.00	3.75	3.13	2.73	2.50	2.24	2.08	1.88	1.50	
	20018	17.66	4.42	3.68	3.20	2.94	2.63	2.45	2.21	1.77	
	20020	20.21	5.05	4.21	3.68	3.37	3.01	2.81	2.53	2.02	
20025	23.17	5.79	4.83	4.20	3.86	3.46	3.22	2.90	2.32		
4.5	12115	6.96	1.55	1.29	1.12	1.03	0.92	0.86	0.77	0.62	
	12116	7.47	1.66	1.38	1.21	1.11	0.99	0.92	0.83	0.66	
	14015	8.20	1.82	1.52	1.33	1.21	1.09	1.01	0.91	0.73	
	14016	8.83	1.96	1.64	1.43	1.31	1.17	1.09	0.98	0.78	
	14018	9.37	2.08	1.74	1.51	1.39	1.24	1.16	1.04	0.83	
	14020	10.26	2.28	1.90	1.66	1.52	1.36	1.27	1.14	0.91	
	17715	10.19	2.26	1.89	1.65	1.51	1.35	1.26	1.13	0.91	
	17716	10.89	2.42	2.02	1.76	1.61	1.44	1.34	1.21	0.97	
	17718	12.09	2.69	2.24	1.95	1.79	1.60	1.49	1.34	1.07	
	17720	13.27	2.95	2.46	2.14	1.97	1.76	1.64	1.47	1.18	
	20018	15.24	3.39	2.82	2.46	2.26	2.02	1.88	1.69	1.35	
	20020	17.46	3.88	3.23	2.82	2.59	2.32	2.16	1.94	1.55	
20025	20.00	4.44	3.70	3.23	2.96	2.65	2.47	2.22	1.78		

Purlins Side Rail Butt System

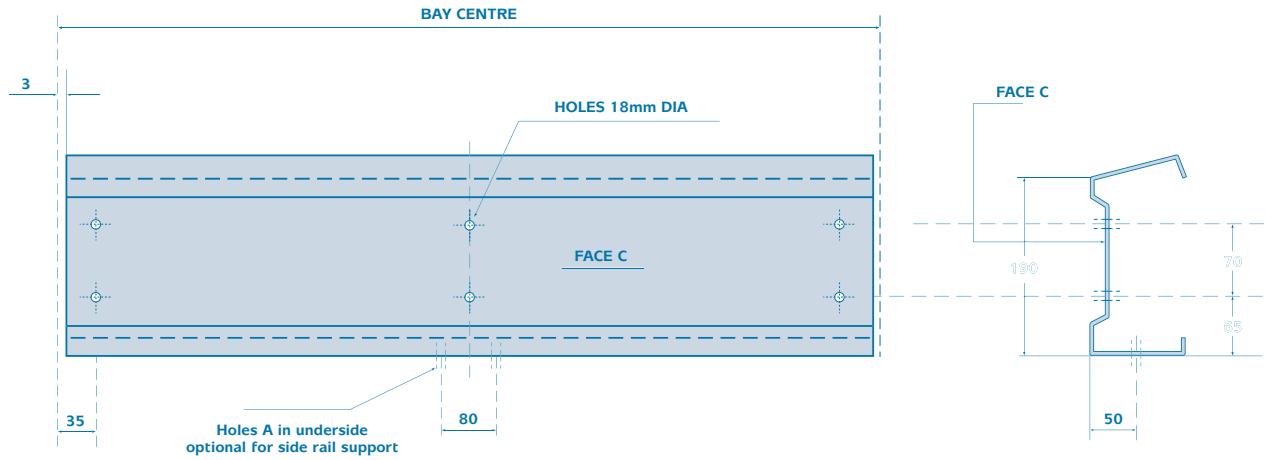
Span Metres	Section	U.D.L. kN	(Purlin Centres (mm))					Allowable Loads kN/m ²			
			1000	1200	1375	1500	1675	1800	2000	2500	
5.0	12115	6.20	1.24	1.03	0.90	0.83	0.74	0.69	0.62	0.50	
	12116	6.65	1.33	1.11	0.97	0.89	0.79	0.74	0.67	0.53	
	14015	7.34	1.47	1.22	1.07	0.98	0.88	0.82	0.73	0.59	
	14016	7.90	1.58	1.32	1.15	1.05	0.94	0.88	0.79	0.63	
	14018	8.39	1.68	1.40	1.22	1.12	1.00	0.93	0.84	0.67	
	14020	9.19	1.84	1.53	1.34	1.23	1.10	1.02	0.92	0.74	
	17715	9.21	1.84	1.54	1.34	1.23	1.10	1.02	0.92	0.74	
	17716	9.83	1.97	1.64	1.43	1.31	1.17	1.09	0.98	0.79	
	17718	10.92	2.18	1.82	1.59	1.46	1.30	1.21	1.09	0.87	
	17720	12.00	2.40	2.00	1.75	1.60	1.43	1.33	1.20	0.96	
	20018	13.60	2.72	2.27	1.98	1.81	1.62	1.51	1.36	1.09	
	20020	15.58	3.12	2.60	2.27	2.08	1.86	1.73	1.56	1.25	
	20025	17.84	3.57	2.97	2.60	2.38	2.13	1.98	1.78	1.43	
5.5	14015	6.45	1.17	0.98	0.85	0.78	0.70	0.65	0.59	0.47	
	14016	6.94	1.26	1.05	0.92	0.84	0.75	0.70	0.63	0.50	
	14018	7.37	1.34	1.12	0.97	0.89	0.80	0.74	0.67	0.54	
	14020	8.08	1.47	1.22	1.07	0.98	0.88	0.82	0.73	0.59	
	17715	8.42	1.53	1.28	1.11	1.02	0.91	0.85	0.77	0.61	
	17716	9.00	1.64	1.36	1.19	1.09	0.98	0.91	0.82	0.65	
	17718	10.00	1.82	1.52	1.32	1.21	1.09	1.01	0.91	0.73	
	17720	10.96	1.99	1.66	1.45	1.33	1.19	1.11	1.00	0.80	
	20018	12.38	2.25	1.88	1.64	1.50	1.34	1.25	1.13	0.90	
	20020	14.18	2.58	2.15	1.88	1.72	1.54	1.43	1.29	1.03	
20025	15.93	2.90	2.41	2.10	1.93	1.73	1.61	1.45	1.16		
6.0	14015	5.50	0.92	0.76	0.67	0.61	0.55	0.51	0.46	0.37	
	14016	5.92	0.99	0.82	0.72	0.66	0.59	0.55	0.49	0.39	
	14018	6.29	1.05	0.87	0.76	0.70	0.63	0.58	0.52	0.42	
	14020	6.89	1.15	0.96	0.84	0.77	0.69	0.64	0.57	0.46	
	17715	7.56	1.26	1.05	0.92	0.84	0.75	0.70	0.63	0.50	
	17716	8.07	1.35	1.12	0.98	0.90	0.80	0.75	0.67	0.54	
	17718	8.97	1.50	1.25	1.09	1.00	0.89	0.83	0.75	0.60	
	17720	9.84	1.64	1.37	1.19	1.09	0.98	0.91	0.82	0.66	
	20018	11.21	1.87	1.56	1.36	1.25	1.11	1.04	0.93	0.75	
	20020	12.98	2.16	1.80	1.57	1.44	1.29	1.20	1.08	0.87	
	20025	14.55	2.43	2.02	1.76	1.62	1.45	1.35	1.21	0.97	
6.5	17715	6.75	1.04	0.87	0.76	0.69	0.62	0.58	0.52	0.42	
	17716	7.20	1.11	0.92	0.81	0.74	0.66	0.62	0.55	0.44	
	17718	8.00	1.23	1.03	0.90	0.82	0.73	0.68	0.62	0.49	
	17720	8.79	1.35	1.13	0.98	0.90	0.81	0.75	0.68	0.54	
	20018	10.47	1.61	1.34	1.18	1.07	0.96	0.89	0.81	0.64	
	20020	11.99	1.84	1.54	1.34	1.23	1.10	1.02	0.92	0.74	
	20025	13.57	2.09	1.74	1.52	1.39	1.25	1.16	1.04	0.84	
7.0	20018	9.67	1.38	1.15	1.00	0.92	0.82	0.77	0.69	0.55	
	20020	11.01	1.57	1.31	1.14	1.05	0.94	0.87	0.79	0.63	
	20025	12.58	1.80	1.50	1.30	1.20	1.08	1.00	0.90	0.72	
7.5	20020	10.33	1.38	1.15	1.00	0.92	0.82	0.77	0.69	0.55	
	20025	11.72	1.56	1.30	1.13	1.04	0.93	0.87	0.78	0.63	
8.0	20025	10.48	1.31	1.09	0.95	0.87	0.78	0.73	0.66	0.52	
8.5	20025	8.75	1.03	0.86	0.75	0.69	0.62	0.57	0.51	0.41	

Eaves Beam



Stiffening cleats should be used when side rail supports are suspended from the bottom flange of the eaves beam.

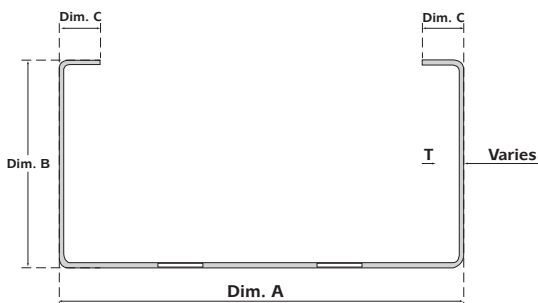
Eaves Beam - 19020	
Material	2.0mm Pre Galv. Steel BS EN 10326. 2004
Gauge	2.0mm
Weight Metre/Kg	6.66 kgs
Area	CM ² 8.48
Inertia	XX CM ⁴ 529.94
Sec Mod	XX CM ³ 49.55
Inertia	YY CM ⁴ 86.86
Sec Mod	YY CM ³ 13.37
Rad of GYR	XX CM 7.91
Rad of GYR	YY CM 3.20



Applied Vertical Loads

Span Metres	Section Ref.	Lat Supp	Horizontal Wind Loads (kN)										
			5	6	7	8	9	10	11	12	13	14	15
4m	190-100 2mm	1	22.31	21.61	20.91	20.21	19.51	18.81	18.11	17.41	16.71	16.01	15.31
4.5m	..	1	19.47	18.77	18.07	17.37	16.67	15.97	15.27	14.57	13.87	13.17	12.47
5m	..	1	16.93	16.23	15.53	14.83	14.13	13.43	12.73	12.03	11.33	10.63	9.93
5.5m	..	1	14.71	14.01	13.31	12.61	11.91	11.21	10.51	9.81	9.11	8.41	7.71
6m	..	1	12.68	11.98	11.28	10.58	9.88	9.18	8.48	7.78	7.08	6.38	5.68
6.5m	..	2	11.10	11.10	11.10	11.10	11.10	11.10	11.10	11.10	11.10	11.10	11.10
7m	..	2	9.57	9.57	9.57	9.57	9.57	9.57	9.57	9.57	9.57	9.57	9.57
7.5m	..	2	8.34	8.34	8.34	8.34	8.34	8.34	8.34	8.34	8.34	8.34	8.34
8m	..	2	7.33	7.33	7.33	7.33	7.33	7.33	7.33	7.33	7.33	7.33	7.33

C Sections



C Section Dimensions						
Dim. A	Dim. B	Dim. C	Thickness T			
127mm	63.5mm	13mm	1.6mm	1.8mm	2.0mm	2.5mm
140mm	65mm	15mm	1.6mm	-	-	-
165mm	63.5mm	13mm	1.6mm	1.8mm	2.0mm	2.5mm
177mm	65mm	15mm	1.6mm	-	-	-
200mm	65mm	15mm	-	1.8mm	-	-
220mm	63.5mm	13mm	-	1.8mm	2.0mm	2.5mm

More information available on request

Cleader Angle

Manufactured from pre-galvanised steel angle and are available in three standard sizes: – 45 x 45 x 2mm, 50 x 50 x 1.6mm and 70 x 70 x 2mm.

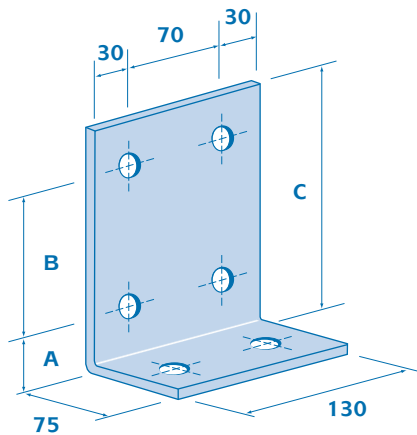
Cladding

All figures are for 'Weight as Laid'

Material	Kg/m ²	kN/m ²	Material	Kg/m ²	kN/m ²
Steel Cladding			Other Materials		
0.45mm Liner	4.20	0.041	12mm Insulating Fibre Board	4.38	0.043
0.6mm Thick	6.10	0.060	10mm Plaster Board	} on Steel Tees 8.26	0.081
0.7mm Thick	6.80	0.067	12mm Plaster Board		
0.9mm Thick	8.90	0.087	10mm Asbestos Insulating Board	7.85	0.077
Single Skin Corrugated Asbestos			60mm Glass Wool	0.70	0.007
Standard Three	15.04	0.147	80mm Glass Wool	0.90	0.009
Big Six	16.11	0.158	30mm Aeroliner	1.55	0.016
Double Six – 6mm Thick	16.60	0.163	50mm Aeroliner	2.20	0.022
Double Six – 9mm Thick	24.40	0.239			
Double Six M	16.00	0.157			

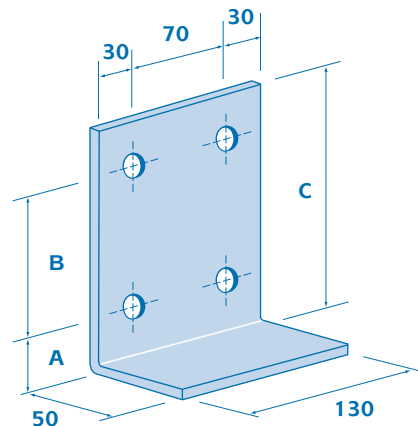
The above information is for guidance only and no liability is accepted for their accuracy.

Purlin Cleat



Purlin Cleat - Angle - Boltable				
Ref.	121	140	177	200
Thickness	6	6	6	6
Dimension A	50	50	50	50
Dimension B	40	60	80	116
Dimension C	120	140	160	196
Hole Diameter	18	18	18	18

Purlin Cleat - Angle - Weldable				
Ref.	121	140	177	200
Thickness	6	6	6	6
Dimension A	50	50	50	50
Dimension B	40	60	80	116
Dimension C	120	140	160	196
Hole Diameter	18	18	18	18



Cold Rolled Sections

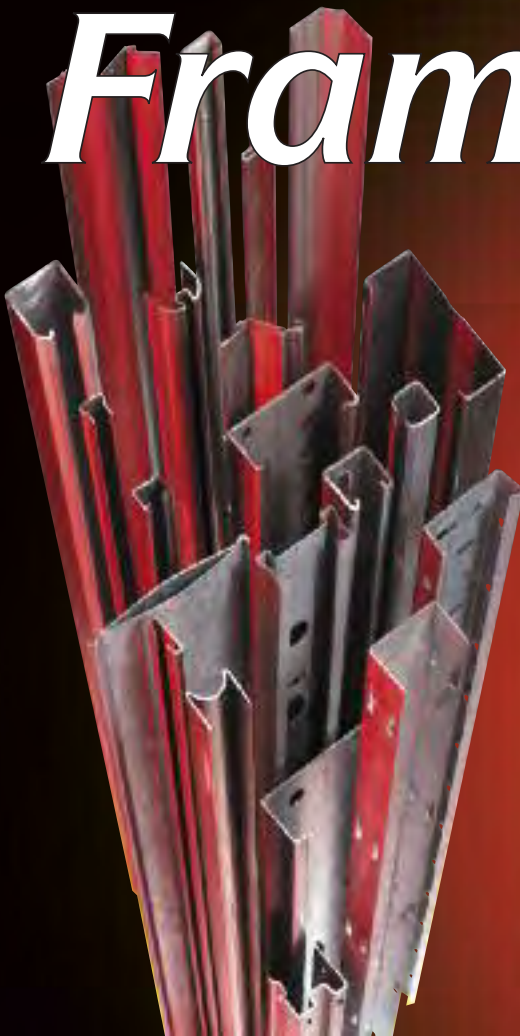
Steel Sections Rolled to your exact specifications

We produce many other types of metal sections in addition to Purlins. If you have a requirement for any other profiles then we can either tool up to match your exact specifications or we may have a standard section that we can offer you.

If you need a supplier with a proven record of tackling sections that other manufacturers can't handle. We can help.

- **Manufacturers of over 2000 types of section profiles**
- **In-house tool design and manufacture**
- **Cold rolled steel sections, from 0.3mm-5mm thick**

Strut Framing



Zed Purlins

Strut Framing

Angles & Channels

Special Profiles

Stainless Steel