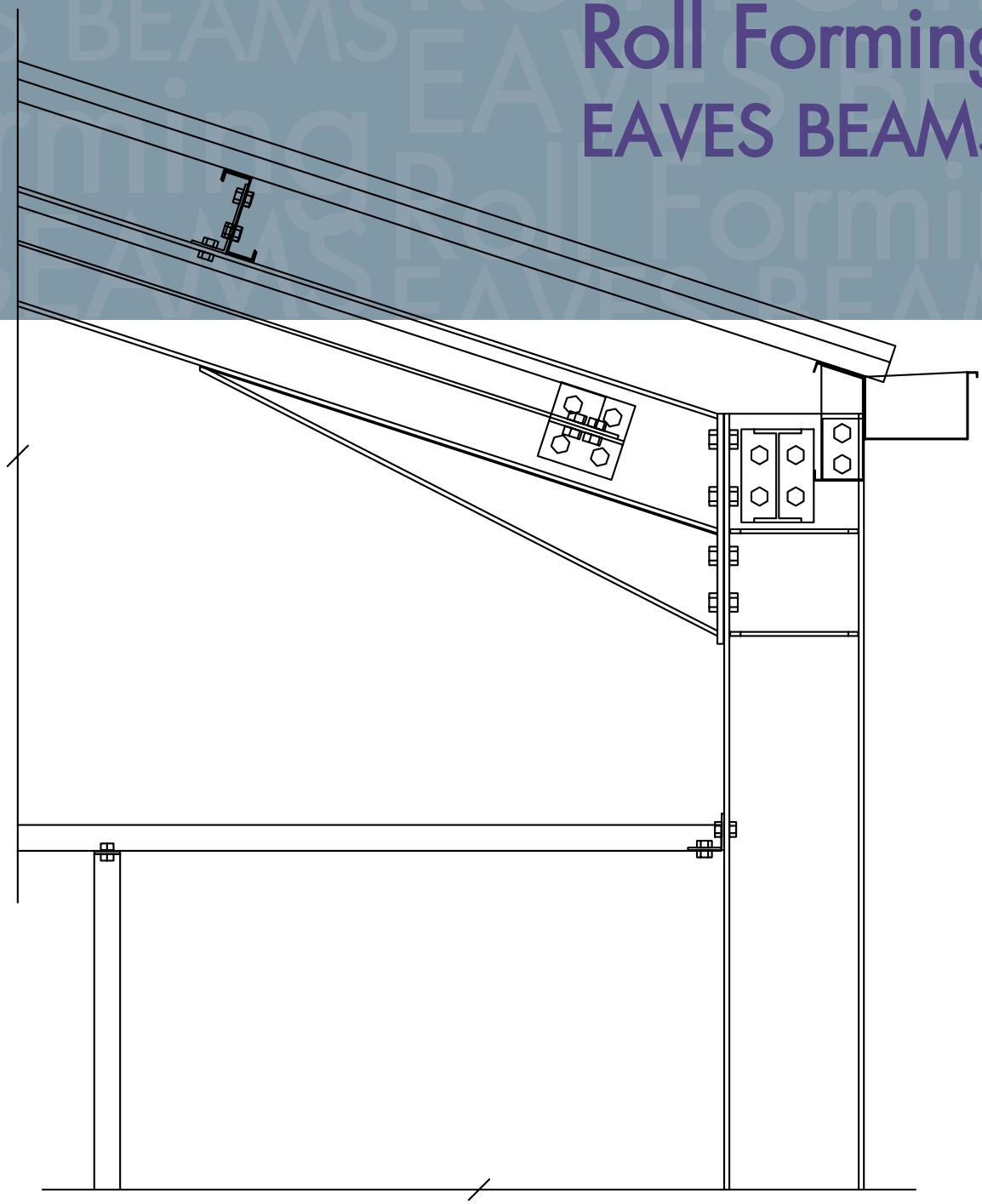
Roll Forming
EAVES BEAMS



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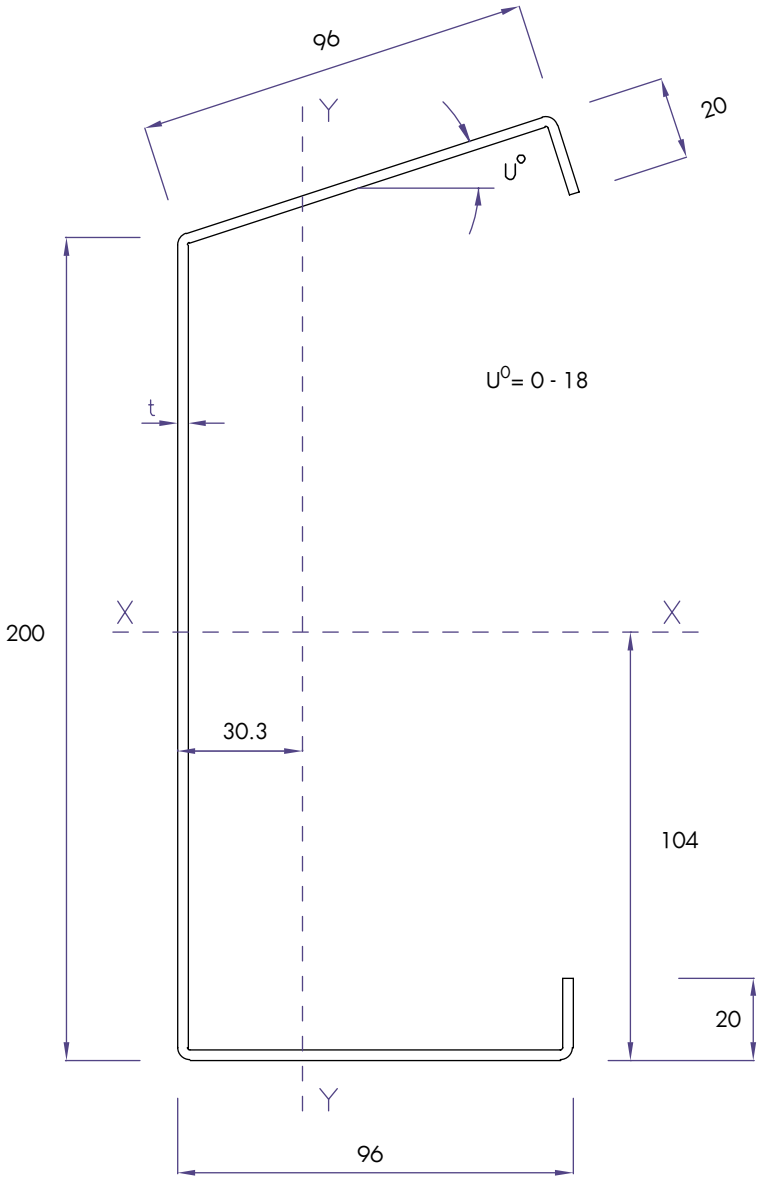


Eaves Beams

Section Properties

Section Size	200.20	200.25	200.30
Thickness t - mm	2.0	2.5	3.0
Weight Per Metre - kg.	6.484	8.105	9.726
Area - cm^2	8.260	10.325	12.390
Moment of Inertia Ixx - cm^4	652.80	809.47	963.63
Section Modulus Zxx - cm^3	62.74	77.94	92.94
Rad of Gyration rxx - cm	8.89	8.90	8.92
Moment of Inertia Iyy - cm^4	107.67	132.51	156.55
Section Modulus Zyy - cm^3	16.40	20.19	23.86
Rad of Gyration ryy - cm	3.55	3.53	3.51

Load Tables

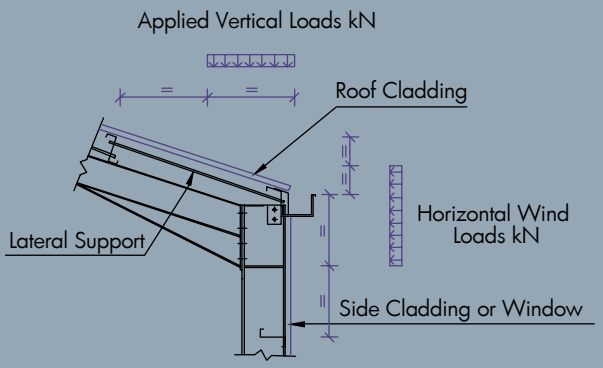
The load table for eaves beams are calculated as single span beam in accordance with BS 5950: Part 5 1987 and offering the facility of stanchion head tie and/or gutter support.

The load tables give values for the applied load and horizontal wind load for given spans using lateral supports as indicated.

For intermediate values of wind loads linear interpolation may be used.

Material yield strenght used in the design calculations is 220 N/mm^2.

APPLIED VERTICAL LOADS kN.													
Horizontal Wind Loads kN.													
Span metres	Section type	Lateral supports	5	6	7	8	9	10	11	12	13	14	15
4.00	200.20	1	13.56	12.92	12.28	11.64	11.00	10.36	9.72	9.08	8.44	7.80	7.16
		2	15.34	15.06	14.77	14.49	14.20	13.92	13.63	13.35	13.06	12.78	12.49
	200.25	1	17.87	17.24	16.60	15.97	15.33	14.70	14.06	13.43	12.79	12.16	11.52
		2	19.64	19.36	19.08	18.79	18.51	18.23	17.95	17.66	17.38	17.10	16.82
	200.30	1	21.95	21.30	20.66	20.01	19.37	18.72	18.07	17.43	16.78	16.14	15.49
		2	23.74	23.45	23.17	22.88	22.59	22.31	22.02	21.73	21.45	21.16	20.87
4.50	200.20	1	11.64	11.00	10.36	9.72	9.08	8.44	7.80	7.15	6.51	5.87	5.23
		2	13.42	13.13	12.85	12.56	12.28	11.99	11.71	11.43	11.14	10.86	10.57
	200.25	1	15.46	14.82	14.19	13.55	12.92	12.28	11.65	11.01	10.38	9.74	9.10
		2	17.22	16.94	16.66	16.38	16.09	15.81	15.53	15.25	14.96	14.68	14.40
	200.30	1	19.06	18.41	17.77	17.12	16.48	15.83	15.18	14.54	13.89	13.25	12.60
		2	20.85	20.56	20.38	19.99	19.70	19.42	19.13	18.84	18.56	18.27	17.98
5.00	200.20	1	10.09	9.45	8.81	8.17	7.53	6.89	6.25	5.61	4.97	4.33	3.69
		2	11.87	11.59	11.30	11.02	10.73	10.45	10.16	9.88	9.60	9.31	9.03
	200.25	1	13.52	12.88	12.25	11.61	10.98	10.34	9.70	9.07	8.43	7.80	7.16
		2	15.28	15.00	14.72	14.44	14.15	13.87	13.59	13.31	13.02	12.74	12.46
	200.30	1	16.74	16.09	15.44	14.80	14.15	13.51	12.86	12.22	11.57	10.93	10.28
		2	18.53	18.24	17.96	17.67	17.38	17.10	16.81	16.52	16.23	15.95	15.66
5.50	200.20	1	8.82	8.18	7.54	6.90	6.26	5.62	4.98	4.34	3.70	3.06	2.42
		2	10.60	10.32	10.03	9.75	9.46	9.18	8.89	8.61	8.33	8.04	7.76
	200.25	1	11.92	11.29	10.65	10.02	9.38	8.74	8.11	7.47	6.84	6.20	5.57
		2	13.69	13.40	13.12	12.84	12.56	12.27	11.99	11.71	11.43	11.15	10.86
	200.30	1	14.83	14.18	13.54	12.89	12.24	11.60	10.95	10.31	9.66	9.02	8.37
		2	16.62	16.33	16.05	15.76	15.47	15.19	14.90	14.61	14.33	14.04	13.75
6.00	200.20	1	7.76	7.12	6.48	5.84	5.20	4.56	3.92	3.28	2.63	1.99	1.35
		2	9.54	9.25	8.97	8.68	8.40	8.12	7.83	7.55	7.26	6.98	6.69
	200.25	1	10.59	9.95	9.31	8.68	8.04	7.41	6.77	6.14	5.50	4.87	4.23
		2	12.35	12.07	11.79	11.50	11.22	10.94	10.66	10.37	10.09	9.81	9.53
	200.30	1	13.23	12.58	11.94	11.29	10.65	10.00	9.35	8.71	8.06	7.42	6.77
		2	15.02	14.74	14.45	14.16	13.87	13.59	13.30	13.01	12.73	12.44	12.15
6.50	200.20	1	6.85	6.21	5.57	4.93	4.29	3.65	3.01	2.37	1.73	1.09	0.45
		2	8.63	8.35	8.06	7.78	7.50	7.21	6.93	6.64	6.36	6.07	5.79
	200.25	1	9.45	8.81	8.18	7.54	6.91	6.27	5.64	5.00	4.36	3.73	3.09

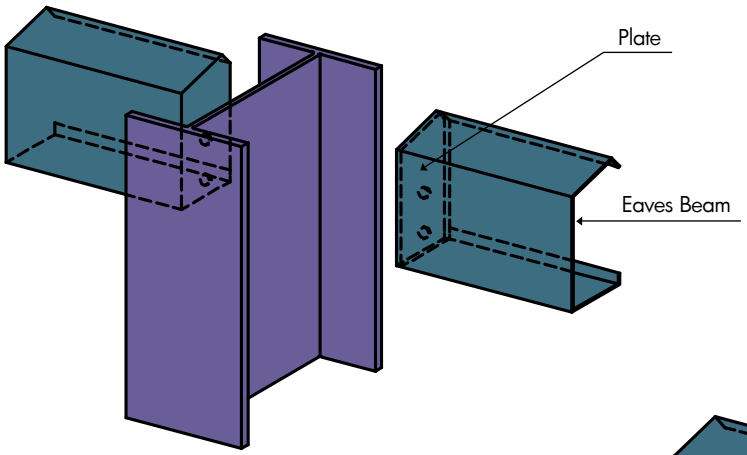


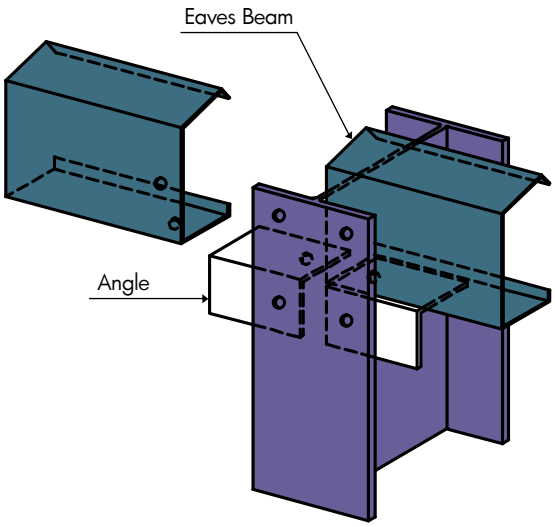
Design Loads

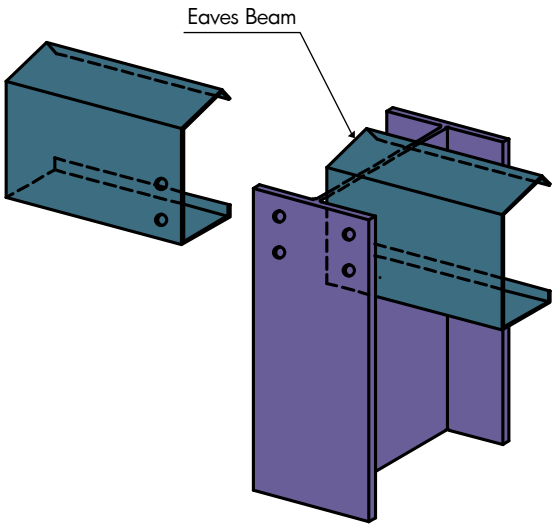
APPLIED VERTICAL LOADS kN.													
Horizontal Wind Loads kN.													
Span metres	Section type	Lateral supports	5	6	7	8	9	10	11	12	13	14	15
		2	11.21	10.93	10.65	10.37	10.08	9.80	9.52	9.24	8.95	8.67	8.39
	200.30	1	11.87	11.22	10.58	9.93	9.29	8.64	7.99	7.35	6.70	6.06	5.41
		2	13.66	13.38	13.09	12.80	12.51	12.23	11.94	11.65	11.37	11.08	10.79
7.00	200.20	1	6.07	5.43	4.79	4.15	3.51	2.87	2.23	1.59	0.95	0.31	
		2	7.85	7.57	7.28	7.00	6.71	6.43	6.15	5.86	5.58	5.29	5.01
	200.25	1	8.47	7.83	7.20	6.56	5.93	5.29	4.66	4.02	3.38	2.75	2.11
		2	10.23	9.95	9.67	9.39	9.10	8.82	8.54	8.26	7.97	7.69	7.41
	200.30	1	10.70	10.05	9.40	8.76	8.11	7.47	6.82	6.18	5.53	4.88	4.24
		2	12.49	12.20	11.92	11.63	11.34	11.05	10.77	10.48	10.19	9.91	9.62
7.50	200.20	1	5.39	4.75	4.11	3.47	2.83	2.19	1.55	0.91	0.27		
		2	7.17	6.89	6.60	6.32	6.03	5.75	5.46	5.18	4.90	4.61	4.33
	200.25	1	7.61	6.98	6.34	5.71	5.07	4.44	3.80	3.16	2.53	1.89	1.26
		2	9.38	9.10	8.81	8.53	8.25	7.97	7.68	7.40	7.12	6.84	6.55
	200.30	1	9.67	9.03	8.38	7.74	7.09	6.44	5.80	5.15	4.51	3.86	3.22
		2	11.47	11.18	10.89	10.61	10.32	10.03	9.74	9.46	9.17	8.88	8.60
8.00	200.20	1	4.79	4.15	3.51	2.87	2.23	1.59	0.95	0.31			
		2	6.57	6.29	6.00	5.72	5.43	5.15	4.87	4.58	4.30	4.01	3.73
	200.25	1	6.86	0.22	5.59	4.95	4.32	3.68	3.05	2.41	1.78	1.14	0.50
		2	8.62	8.34	8.06	7.78	7.49	7.21	6.93	6.65	6.36	6.08	5.80
	200.30	1	8.77	8.13	7.48	6.83	6.19	5.54	4.90	4.25	3.61	2.96	2.31
		2	10.56	10.28	9.99	9.70	9.42	9.13	8.84	8.56	8.27	7.98	7.69
8.50	200.20	1	4.26	3.62	2.98	2.34	1.70	1.06	0.42				
		2	6.04	5.76	5.47	5.19	4.90	4.62	4.33	4.05	3.76	3.48	3.19
	200.25	1	6.19	5.55	4.92	4.28	3.65	3.01	2.38	1.74	1.11	0.47	
		2	7.95	7.67	7.39	7.11	6.82	6.54	6.26	5.98	5.70	5.41	5.13
	200.30	1	7.98	7.32	6.68	6.03	5.39	4.74	4.10	3.45	2.80	2.16	1.51
		2	9.79	9.48	9.19	8.90	8.62	8.33	8.04	7.75	7.47	7.18	6.89
9.00	200.20	1	3.78	3.14	2.50	1.86	1.22	0.58					
		2	5.56	5.28	4.99	4.71	4.42	4.14	3.86	3.57	3.29	3.00	2.72
	200.25	1	5.59	4.95	4.32	3.68	3.05	2.41	1.78	1.14	0.51		
		2	7.35	7.07	6.79	6.51	6.23	5.94	5.66	5.38	5.10	4.81	4.53
	200.30	1	7.25	6.61	5.96	5.32	4.67	4.02	3.38	2.73	2.09	1.44	0.80
		2	9.05	8.76	8.47	8.18	7.90	7.61	7.32	7.04	6.75	6.46	6.18

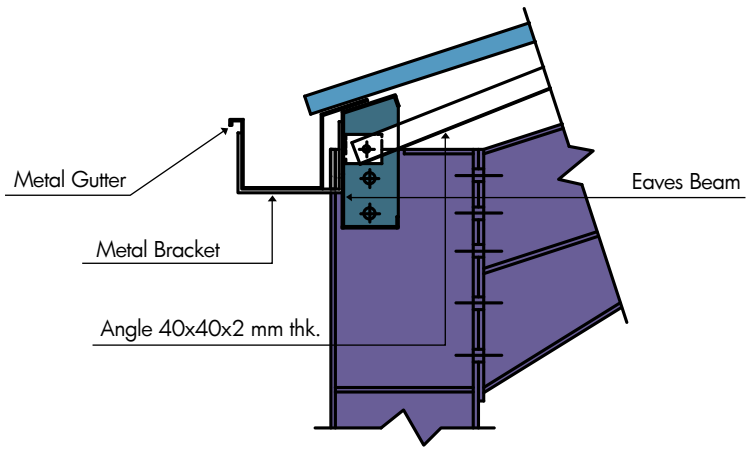
Note: Self weight has been taken into account.

Details of Eaves Fixing









Example

Eaves Beam L = 6.00 metres

Assume 1st Zed Purlin at 1.50 metre from the Eaves Beam

Applied Vertical Load = Dead Load + Live Load + Weight of Gutter

Assume $^1/_2$ of Gutter full of rain water

Applied Horizontal Wind Load - According to CP3 : Chapter V : Part 2 : 1972

Assume Side Cladding 2.00 metre from Eaves Beam

Dead Load = 0.27 kN

Live Load = 3.40 kN

Self Weight of Gutter = 0.35 kN

Weight of rain water = 3.80 kN

Total Applied Vertical Load = 7.82 kN

Basic Wind Speed = 72 m.p.h = 32.18 m/s

Horizontal Wind Load = 6.00 kN

From Load Tables

Span L = 6.00 metres

Lateral Support - 1

∴ Section type 200.25