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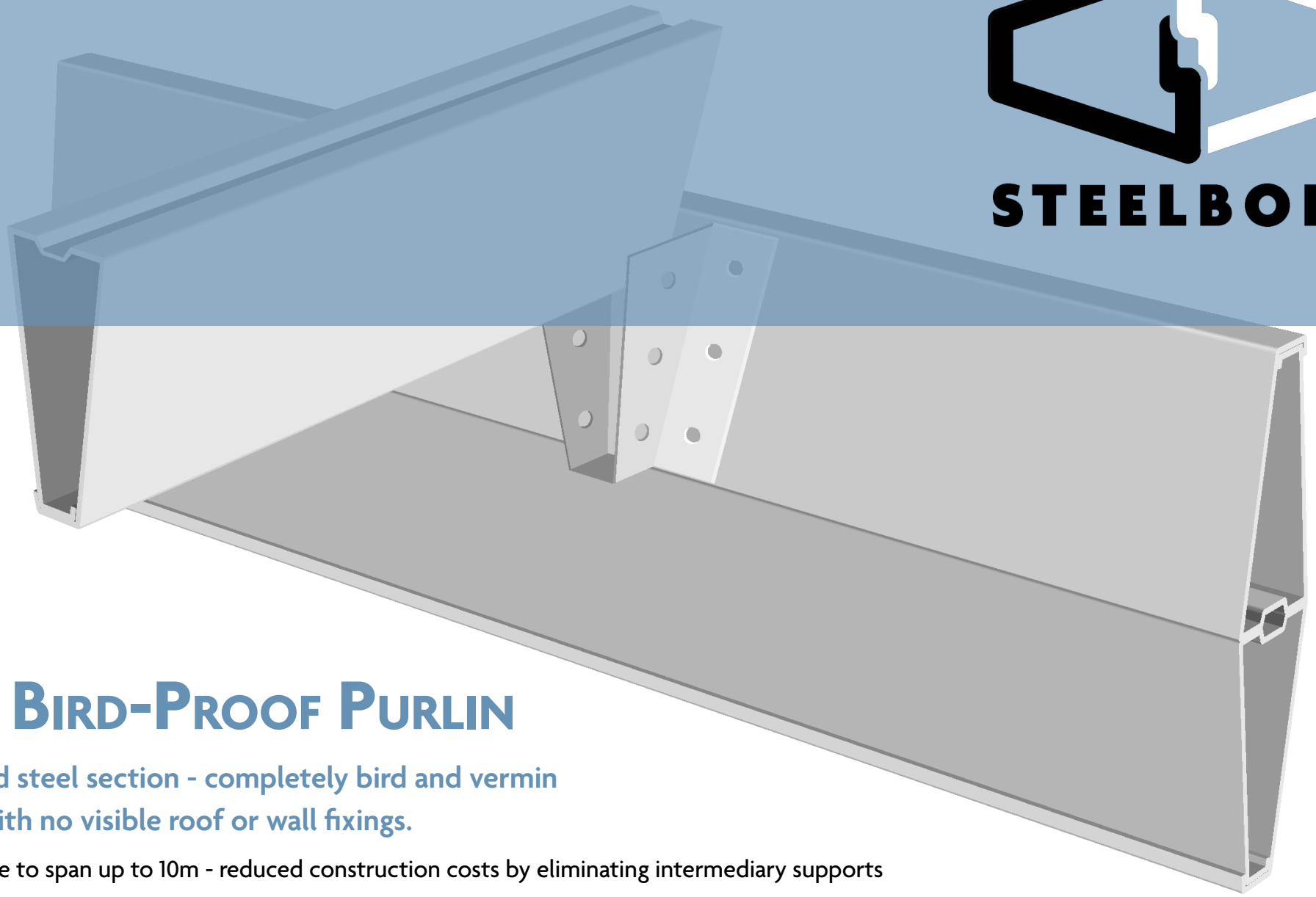

The Bird-Proof Purlin

Enclosed steel section - completely bird and vermin proof with no visible roof or wall fixings.

- Able to span up to 10m - reduced construction costs by eliminating intermediary supports in roof and wall frames.
- Angled section edges also remove grip surfaces for birds and vermin.
- Simple to install and 100% locally manufactured.

The Steelbone Building System

Steel sheds, whilst having the advantages of greater spans and durability, have had the distinct disadvantage of access for birds and vermin - UNTIL NOW!

The unique Steelbone building system offers a superior value proposition to owners of rural, commercial industrial or residential property. By eliminating intermediary supports for the roof and wall frames, Steelbone is able to deliver cleaner design options while reducing labour and machinery costs during construction. Ideal for dairy sheds and other buildings where enclosed walls are not always viable, Steelbone is also an excellent choice for commercial and residential wall framing.

Purlin Design Charts: Single Span

- **Uniformly Disturbed Loads (kN/m)**

Span (m)	100 x 0.75			100 x 0.95			150 x 0.75			150 x 0.95			150 x 1.15			200 x 0.95			200 x 1.15			200 x 1.45		
	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s	Inward	Outward	W_s
2.00																								
2.25																								
2.50	3.89	3.46	2.17																					
2.75	3.21	2.86	1.63																					
3.00	2.70	2.40	1.26																					
3.25	2.30	2.05	0.99	2.98	2.75	1.25	3.48	3.48	2.88	5.91	5.31	3.65												
3.50	1.99	1.77	0.79	2.57	2.37	1.00	3.00	3.00	2.31	5.09	4.58	2.92												
3.75	1.73	1.54	0.64	2.24	2.07	0.81	2.61	2.61	1.88	4.44	3.99	2.37	4.93	4.63	2.87	4.88	5.07	5.12						
4.00	1.52	1.35	0.53	1.97	1.82	0.67	2.30	2.30	1.55	3.90	3.51	1.96	4.33	4.07	2.36	4.29	4.46	4.22						
4.25	1.35	1.20	0.44	1.75	1.61	0.56	2.03	2.03	1.29	3.46	3.11	1.63	3.84	3.61	1.97	3.80	3.95	3.52						
4.50	1.20	1.07	0.37	1.56	1.44	0.47	1.82	1.82	1.09	3.08	2.77	1.37	3.43	3.22	1.66	3.39	3.52	2.96						
4.75	1.08	0.96	0.32	1.40	1.29	0.40	1.63	1.63	0.92	2.77	2.49	1.17	3.08	2.89	1.41	3.04	3.16	2.52	4.82	4.62	3.05			
5.00	0.97	0.86	0.27	1.26	1.16	0.34	1.47	1.47	0.79	2.50	2.25	1.00	2.78	2.61	1.21	2.75	2.86	2.16	4.35	4.17	2.61			
5.25	0.88	0.78	0.23	1.14	1.05	0.30	1.34	1.34	0.68	2.27	2.04	0.86	2.52	2.37	1.05	2.49	2.59	1.87	3.95	3.78	2.26	5.02	4.98	2.84
5.50	0.80	0.71	0.20	1.03	0.95	0.26	1.22	1.22	0.59	2.06	1.86	0.75	2.29	2.16	0.91	2.27	2.36	1.62	3.60	3.44	1.96	4.58	4.54	2.47
5.75	0.72	0.65	0.18	0.94	0.87	0.23	1.11	1.11	0.52	1.88	1.69	0.66	2.10	1.97	0.80	2.08	2.16	1.42	3.29	3.15	1.72	4.19	4.15	2.16
6.00	0.66	0.59	0.16	0.86	0.79	0.20	1.02	1.02	0.46	1.72	1.55	0.58	1.93	1.81	0.70	1.91	1.98	1.25	3.02	2.90	1.51	3.85	3.81	1.90
6.25	0.61	0.54	0.14	0.79	0.73	0.18	0.94	0.94	0.41	1.57	1.42	0.51	1.77	1.66	0.62	1.76	1.82	1.11	2.79	2.67	1.34	3.55	3.51	1.68
6.50	0.56	0.50	0.12	0.72	0.67	0.16	0.87	0.87	0.36	1.45	1.31	0.46	1.63	1.53	0.55	1.63	1.67	0.98	2.57	2.46	1.19	3.27	3.25	1.50
6.75	0.52	0.46	0.11	0.67	0.62	0.14	0.81	0.81	0.32	1.34	1.21	0.41	1.50	1.41	0.49	1.51	1.55	0.88	2.38	2.28	1.06	3.02	3.00	1.34
7.00	0.48	0.43	0.10	0.62	0.57	0.12	0.75	0.75	0.29	1.24	1.12	0.36	1.39	1.31	0.44	1.40	1.43	0.79	2.20	2.11	0.95	2.80	2.78	1.20
7.25	0.44	0.40	0.09	0.57	0.53	0.11	0.70	0.70	0.26	1.15	1.04	0.33	1.29	1.22	0.40	1.31	1.33	0.71	2.04	1.96	0.86	2.60	2.58	1.08
7.50	0.41	0.37	0.08	0.53	0.49	0.10	0.66	0.66	0.23	1.07	0.96	0.30	1.20	1.13	0.36	1.22	1.24	0.64	1.90	1.82	0.77	2.42	2.40	0.97
7.75	0.38	0.34	0.07	0.50	0.46	0.09	0.62	0.62	0.21	0.99	0.90	0.27	1.12	1.06	0.32	1.15	1.16	0.58	1.77	1.70	0.70	2.26	2.24	0.88
8.00	0.36	0.32	0.07	0.46	0.43	0.08	0.58	0.58	0.19	0.93	0.84	0.24	1.05	0.99	0.30	1.08	1.08	0.53	1.66	1.59	0.64	2.11	2.09	0.80
8.25	0.33	0.30	0.06	0.43	0.40	0.08	0.54	0.54	0.18	0.87	0.79	0.22	0.98	0.92	0.27	1.01	1.01	0.48	1.55	1.49	0.58	1.97	1.96	0.73
8.50	0.31	0.28	0.06	0.41	0.38	0.07	0.51	0.51	0.16	0.82	0.74	0.20	0.92	0.87	0.25	0.95	0.95	0.44	1.46	1.40	0.53	1.85	1.84	0.67
8.75	0.29	0.26	0.05	0.38	0.35	0.06	0.48	0.48	0.15	0.77	0.69	0.19	0.86	0.82	0.23	0.90	0.90	0.40	1.37	1.31	0.49	1.74	1.73	0.61
9.00	0.28	0.25	0.05	0.36	0.33	0.06	0.46	0.46	0.14	0.72	0.65	0.17	0.81	0.77	0.21	0.85	0.85	0.37	1.29	1.24	0.45	1.64	1.63	0.56
9.25	0.26	0.23	0.04	0.34	0.31	0.05	0.43	0.43	0.13	0.68	0.61	0.16	0.77	0.72	0.19	0.81	0.81	0.34	1.22	1.17	0.41	1.54	1.54	0.52
9.50	0.25	0.22	0.04	0.32	0.30	0.05	0.41	0.41	0.12	0.64	0.58	0.15	0.72	0.68	0.18	0.76	0.76	0.32	1.15	1.10	0.38	1.46	1.45	0.48
9.75	0.23	0.21	0.04	0.30	0.28	0.05	0.39	0.39	0.11	0.60	0.55	0.14	0.68	0.65	0.16	0.73	0.73	0.29	1.08	1.04	0.35	1.38	1.37	0.44
10.00	0.22	0.20	0.03	0.28	0.27	0.04	0.37	0.37	0.10	0.57	0.52	0.13	0.65	0.61	0.15	0.69	0.69	0.27	1.03	0.99	0.33	1.30	1.30	0.41

Note: Refer to Section and Material Property Table. Sectopn capacities are for an unbraced section. These are uniformly distributed loads, for other loading please convert based off equivalent bending moment to obtain equivalent udl for using these tables.

Section & Material Properties

SECTION	Grade	Mass	Weight	DIMENSIONS						GROSS SECTION PROPERTIES							
				Depth	Top Flange Width	Bottom Flange Width	Thickness	Centre of Gravity		Gross Area	About x-axis			About y-axis			Torsion Constant
	f_y	m	W	D	B_t	B_b	t	x_c	y_c	A_g	I_x	Z_x	r_x	I_y	Z_y	r_y	J
	MPa	kg/m	kN/m	mm	mm	mm	mm	mm	mm	mm^2	$\times 10^6\ mm^4$	$\times 10^3\ mm^3$	mm	$\times 10^6\ mm^4$	$\times 10^3\ mm^3$	mm	mm^4
A1075	550	2.1	0.020	100	67	38	0.75	33.5	53.4	261.9	0.38	7.1	38.1	0.12	3.6	21.4	49.1
A1010	550	2.6	0.025	100	67	38	0.95	33.5	53.3	329.6	0.47	8.8	37.8	0.15	4.5	21.3	99.2
A1575	550	2.8	0.027	150	83	38	0.75	41.5	76.6	351.2	1.09	14.2	55.7	0.25	6.0	26.7	65.9
A1510	550	3.5	0.034	150	83	38	0.95	41.5	76.4	442.8	1.36	17.8	55.4	0.31	7.5	26.5	133.2
A1512	500	4.2	0.041	150	83	38	1.15	41.5	76.2	532.6	1.63	21.4	55.3	0.37	8.9	26.4	234.8
A2010	550	4.3	0.043	200	97	38	0.95	48.5	99.1	552.0	2.89	29.2	72.4	0.52	10.7	30.7	166.1
A2012	500	5.2	0.051	200	97	38	1.15	48.5	98.9	664.8	3.47	35.1	72.2	0.62	12.8	30.5	293.1
A2015	500	6.6	0.064	200	97	38	1.45	48.5	98.4	835.1	4.32	43.9	71.9	0.77	15.9	30.4	585.3

Purlin Design Charts: Single Span and Unbraced

- **Axial Compression Capacity (kN/m)**

Span (m)	A1075	A1010	A1575	A1510	A1512	A2010	A2012	A2015
2.00	20.27	29.73	23.18	34.59	47.23	24.21	50.50	77.32
2.25	17.40	25.45	19.98	29.77	40.58	23.71	43.71	67.14
2.50	15.16	22.11	17.49	26.00	35.39	23.59	38.25	58.62
2.75	13.37	19.44	15.49	23.00	31.25	23.59	33.89	51.81
3.00	11.91	17.27	13.86	20.54	27.87	22.68	30.33	46.25
3.25	10.70	15.22	12.51	18.51	25.06	20.49	27.37	41.64
3.50	9.68	13.13	11.37	16.79	22.71	18.64	24.89	37.75
3.75	8.81	11.44	10.40	15.33	20.70	17.07	22.77	34.44
4.00	8.07	10.07	9.56	14.08	18.97	15.71	20.95	31.59
4.25	7.16	8.92	8.84	12.99	17.47	14.53	19.36	29.12
4.50	6.39	7.96	8.20	12.03	15.95	13.50	17.98	26.95
4.75	5.74	7.15	7.64	11.19	14.33	12.58	16.75	25.03
5.00	5.18	6.46	7.14	10.44	12.95	11.77	15.67	23.33
5.25	4.70	5.87	6.69	9.77	11.76	11.05	14.70	21.54
5.50	4.29	5.35	6.29	9.00	10.73	10.40	13.82	19.62
5.75	3.93	4.90	5.93	8.24	9.83	9.81	13.04	17.95
6.00	3.61	4.50	5.60	7.58	9.04	9.28	12.33	16.48
6.25	3.33	4.16	5.30	6.99	8.34	8.79	11.68	15.19
6.50	3.08	3.85	5.03	6.47	7.72	8.35	10.98	14.04
6.75	2.86	3.57	4.78	6.01	7.17	7.94	10.22	13.02
7.00	2.66	3.32	4.45	5.60	6.68	7.57	9.53	12.10
7.25	2.48	3.10	4.15	5.23	6.24	7.22	8.92	11.28
7.50	2.32	2.90	3.89	4.89	5.84	6.90	8.36	10.54
7.75	2.17	2.72	3.65	4.59	5.47	6.61	7.86	9.87
8.00	2.04	2.56	3.43	4.31	5.15	6.27	7.41	9.26
8.25	1.92	2.41	3.23	4.06	4.85	5.90	6.99	8.71
8.50	1.81	2.27	3.05	3.83	4.58	5.57	6.61	8.20
8.75	1.71	2.15	2.88	3.62	4.33	5.27	6.26	7.74
9.00	1.62	2.03	2.73	3.43	4.10	4.99	5.95	7.31
9.25	1.54	1.93	2.59	3.25	3.89	4.74	5.65	6.92
9.50	1.46	1.83	2.46	3.09	3.69	4.50	5.38	6.56
9.75	1.39	1.74	2.34	2.94	3.51	4.29	5.13	6.23
10.00	1.32	1.66	2.23	2.80	3.34	4.08	4.90	5.92

Note: Refer to Section and Material Property Table. Section capacities are for an unbraced section. Capacities have been determined in accordance with ASNZS4600:2005 and utilizing CUFSM 4.05 software by Ben Schafer.

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