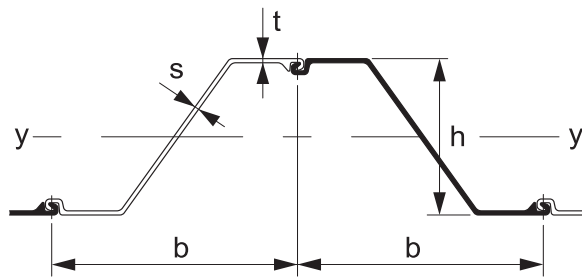


Steel Sheet Piling - Hot Rolled AZ Sections (1 of 2)



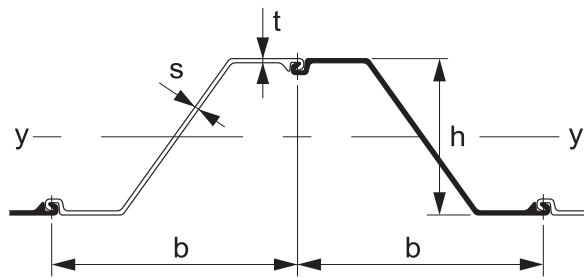
AZ sections are continuous through the web with the interlocks located symmetrically on each side of the neutral axis, this positively influences the section modulus.

- Proven qualities of the Larsen interlock
- Extremely competitive section modulus to mass ratio
- Increased inertia for reduced deflection
- No interlock shear reduction factors that do apply to U piles
- Wide profiles, resulting in improved installation performance
- Improved corrosion performance with increased steel thickness at the critical corrosion points

Section	Width b mm	Height h mm	Thickness		Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus cm ³ /m	Moment of Inertia cm ⁴ /m
			t mm	s mm			kg/m Single Pile	kg/m ² of Wall		
AZ-800 Sections										
AZ 18-800	800	449	8.5	8.5	129	1.30	80.7	101	1840	41320
AZ 20-800	800	450	9.5	9.5	141	1.30	88.6	111	2000	45050
AZ 22-800	800	451	10.5	10.5	153	1.30	96.4	120	2165	48790
AZ 23-800	800	474	11.5	9.0	151	1.32	94.6	118	2330	55260
AZ 25-800	800	475	12.5	10.0	163	1.32	102.6	128	2500	59410
AZ 27-800	800	476	13.5	11.0	176	1.32	110.5	138	2670	63570
AZ-750 Sections										
AZ 28-750	750	509	12.0	10.0	171	1.41	100.8	134	2810	71540
AZ 30-750	750	510	13.0	11.0	185	1.41	108.8	145	3005	76670
AZ 32-750	750	511	14.0	12.0	198	1.41	116.7	156	3200	81800
AZ-770 Sections										
AZ 12-770	770	344	8.5	8.5	120	1.20	72.6	94	1245	21430
AZ 13-770	770	344	9.0	9.0	126	1.20	76.1	99	1300	22360
AZ 14-770	770	345	9.5	9.5	132	1.20	79.5	103	1355	23300
AZ 14-770-10/10	770	345	10.0	10.0	137	1.20	82.9	108	1405	24240
AZ-700 Sections										
AZ 12-700	700	314	8.5	8.5	123	1.22	67.7	97	1205	18880
AZ 13-700	700	315	9.5	9.5	135	1.22	74.0	106	1305	20540
AZ 13-700-10/10	700	316	10.0	10.0	140	1.22	77.2	110	1355	21370
AZ 14-700	700	316	10.5	10.5	146	1.22	80.3	115	1405	22190
AZ 17-700	700	420	8.5	8.5	133	1.33	73.1	104	1730	36230
AZ 18-700	700	420	9.0	9.0	139	1.33	76.5	109	1800	37800
AZ 19-700	700	421	9.5	9.5	146	1.33	80.0	114	1870	39380
AZ 20-700	700	421	10.0	10.0	152	1.33	83.5	119	1945	40960
AZ 24-700N	700	459	12.5	9.0	163	1.37	89.7	128	2435	55890
AZ 26-700N	700	460	13.5	10.0	176	1.37	96.9	138	2600	59790
AZ 28-700N	700	461	14.5	11.0	189	1.37	104.1	149	2765	63700
AZ 24-700	700	459	11.2	11.2	174	1.38	95.7	137	2430	55820
AZ 26-700	700	460	12.2	12.2	187	1.38	102.9	147	2600	59720
AZ 28-700	700	461	13.2	13.2	200	1.38	110.0	157	2760	63620
AZ 36-700N	700	499	15.0	11.2	216	1.47	118.6	169	3590	89610
AZ 38-700N	700	500	16.0	12.2	230	1.47	126.4	181	3795	94840
AZ 40-700N	700	501	17.0	13.2	244	1.47	134.2	192	3995	100080
AZ 42-700N	700	499	18.0	14.0	259	1.46	142.1	203	4205	104930
AZ 44-700N	700	500	19.0	15.0	273	1.46	149.9	214	4405	110150
AZ 46-700N	700	501	20.0	16.0	287	1.46	157.7	225	4605	115370
AZ 48-700	700	503	22.0	15.0	288	1.46	158.5	226	4755	119650
AZ 50-700	700	504	23.0	16.0	303	1.46	166.3	238	4955	124850
AZ 52-700	700	505	24.0	17.0	317	1.46	174.1	249	5155	130140

* One side excluding inside of interlocks

- Notes:
- Piles typically supplied threaded together as double piles from the mill, either crimped or uncrimped
 - Corner sections with Larsen interlocks suitable for these profiles can be supplied



AZ sections are continuous through the web with the interlocks located symmetrically on each side of the neutral axis, this positively influences the section modulus.

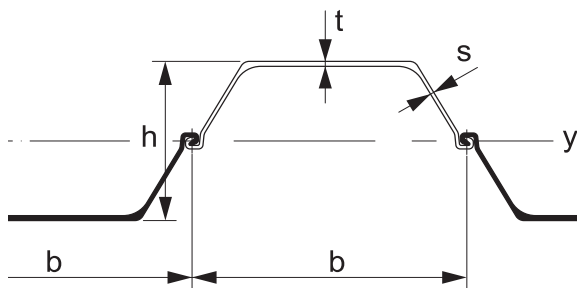
- Proven qualities of the Larsen interlock
- Extremely competitive section modulus to mass ratio
- Increased inertia for reduced deflection
- No interlock shear reduction factors that do apply to U piles
- Wide profiles, resulting in improved installation performance
- Improved corrosion performance with increased steel thickness at the critical corrosion points

Section	Width b mm	Height h mm	Thickness		Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus cm ³ /m	Moment of Inertia cm ⁴ /m
			t mm	s mm			kg/m Single Pile	kg/m ² of Wall		
AZ Classic Sections										
AZ 17	630	379	8.5	8.5	138	1.35	68.4	109	1665	31580
AZ 18	630	380	9.5	9.5	150	1.23	74.4	118	1800	34200
AZ 18-10/10	630	381	10.0	10.0	157	1.23	77.8	123	1870	35540
AZ 19	630	381	10.5	10.5	164	1.35	81.0	129	1940	36980
AZ 25	630	426	12.0	11.2	185	1.41	91.5	145	2455	52250
AZ 26	630	427	13.0	12.2	198	1.41	97.8	155	2600	55510
AZ 28	630	428	14.0	13.2	211	1.41	104.4	166	2755	58940
AZ 46	580	481	18.0	14.0	291	1.23	132.6	229	4595	110450
AZ 48	580	482	19.0	15.0	307	1.23	139.6	241	4800	115670
AZ 50	580	483	20.0	16.0	322	1.41	146.7	253	5015	121060
AZ Discontinued Sections										
AZ 37-700	700	499	17.0	12.2	226	1.46	124.2	177	3705	92400
AZ 39-700	700	500	18.0	13.2	240	1.46	131.9	188	3900	97500
AZ 41-700	700	501	19.0	14.2	254	1.46	139.5	199	4095	102610
AZ 12	670	302	8.5	8.5	126	1.23	66.1	99	1200	18140
AZ 13	670	303	9.5	9.5	137	1.23	72.0	107	1300	19700
AZ 13-10/10	670	304	10.0	10.0	143	1.23	75.2	112	1350	20480
AZ 14	670	304	10.5	10.5	149	1.23	78.3	117	1400	21300

* One side excluding inside of interlocks

- Notes:
- Piles typically supplied threaded together as double piles from the mill, either crimped or uncrimped
 - Corner sections with Larsen interlocks suitable for these profiles can be supplied

Steel Sheet Piling - Hot Rolled U Sections (1 of 2)



The traditional U profile has been in used worldwide for over 90 years.

- Proven qualities of the Larsen interlock
- A wide range of sections with varying characteristics to facilitate design optimization
- The symmetrical form of the single pile makes these convenient for re-use
- Assembling and crimping piles into pairs reduces interlock shear reduction factors and provides installation efficiencies
- Improved corrosion performance with increased steel thickness at the critical corrosion points

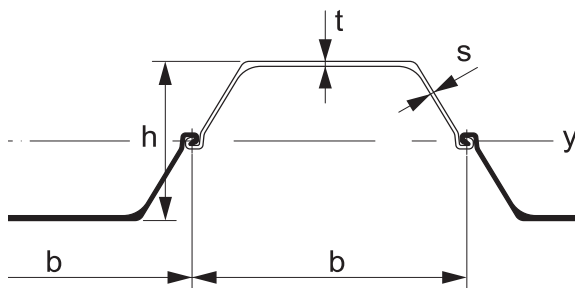
Section	Width b mm	Height h mm	Thickness		Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus** cm ³ /m	Moment of Inertia** cm ⁴ /m
			t mm	s mm			kg/m Single Pile	kg/m ² of Wall		
GU Sections										
GU 6N	600	309	6.0	6.0	89	1.26	41.9	70	625	9670
GU 7N	600	310	6.5	6.4	94	1.26	44.1	74	675	10450
GU 7S	600	311	7.2	6.9	100	1.26	46.3	77	740	11540
GU 8N	600	312	7.5	7.1	103	1.26	48.5	81	770	12010
GU 8S	600	313	8.0	7.5	108	1.26	50.8	85	820	12800
GU 13N	600	418	9.0	7.4	127	1.41	59.9	100	1270	26590
GU 14N	600	420	10.0	8.0	136	1.41	64.3	107	1400	29410
GU 15N	600	422	11.0	8.6	146	1.41	68.7	115	1530	32260
GU 16N	600	430	10.2	8.4	154.2	1.43	72.6	121	1670	35950
GU 18N	600	430	11.2	9.0	163	1.43	76.9	128	1800	38650
GU 20N	600	430	12.2	9.5	172.3	1.43	81.1	135.2	1920	41320
GU 21N	600	450	11.1	9.0	174	1.49	81.9	137	2060	46380
GU 22N	600	450	12.1	9.5	183	1.49	86.1	144	2200	49460
GU 23N	600	450	13.1	10.0	192	1.49	90.4	151	2335	52510
GU 27N	600	452	14.2	9.7	207	1.54	97.4	162	2680	60580
GU 28N	600	454	15.2	10.1	216	1.54	101.8	170	2840	64460
GU 30N	600	456	16.2	10.5	226	1.54	106.2	177	3000	68380
GU 31N	600	452	18.5	10.6	233	1.52	109.9	183	3065	69210
GU 32N	600	452	19.5	11.0	242	1.52	114.1	190	3200	72320
GU 33N	600	452	20.5	11.4	251	1.52	118.4	197	3340	75410
GU 16-400	400	290	12.7	9.4	197	1.60	62.0	155	1560	22580
GU 18-400	400	292	15.0	9.7	221	1.60	69.3	173	1785	26090
AU Sections										
AU 14	750	408	10.0	8.3	132	1.27	77.9	104	1405	28680
AU 16	750	411	11.5	9.3	147	1.27	86.3	115	1600	32850
AU 18	750	441	10.5	9.1	150	1.33	88.5	118	1780	39300
AU 20	750	444	12.0	10.0	165	1.33	96.9	129	2000	44440
AU 23	750	447	13.0	9.5	173	1.36	102.1	136	2270	50700
AU 25	750	450	14.5	10.2	188	1.36	110.4	147	2500	56240
PU-R Sections										
PU 10R***	600	360	8.0	7.0	114	1.35	53.8	90	1055	18960
PU 13R***	675	400	10.0	7.4	124	1.32	65.6	97	1285	25690

* One side excluding inside of interlocks

** Quoted figures for U sections represent the fully developed section modulus and moment of inertia. Designers should ensure full shear transfer in the interlock or consider appropriate project specific interlock shear reduction factors. Additional information is available from our engineering team.

*** Profile no longer manufactured

Note: • Corner sections with Larsen interlocks suitable for these profiles can be supplied



The traditional U profile has been in used worldwide for over 90 years.

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- The symmetrical form of the single pile makes these convenient for re-use
- Assembling and crimping piles into pairs reduces interlock shear reduction factors and provides installation efficiencies
- Improved corrosion performance with increased steel thickness at the critical corrosion points

Section	Width b mm	Height h mm	Thickness		Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus** cm ³ /m	Moment of Inertia** cm ⁴ /m
			t mm	s mm			kg/m Single Pile	kg/m ² of Wall		
PU Sections										
PU 12	600	360	9.8	9.0	140	1.32	66.1	110	1200	21600
PU 12 10/10	600	360	10.0	10.0	148	1.32	69.6	116	1255	22580
PU 18 ¹	600	430	10.2	8.4	154	1.43	72.6	121	1670	35950
PU 18	600	430	11.2	9.0	163	1.43	76.9	128	1800	38650
PU 22 ¹	600	450	11.1	9.0	174	1.49	81.9	137	2060	46380
PU 22	600	450	12.1	9.5	183	1.49	86.1	144	2200	49460
PU 28 ¹	600	452	14.2	9.7	207	1.54	97.4	162	2680	60580
PU 28	600	454	15.2	10.1	216	1.54	101.8	170	2840	64460
PU 32	600	452	19.5	11.0	242	1.52	114.1	190	3200	72320
PU-J Sections										
PU 10J	600	260	10.3	-	131.2	-	61.7	103	1028	13362
PU 18J	600	360	13.4	-	173.2	-	81.6	136	1809	32560
PU 27J	600	420	18.0	-	225.5	-	106.0	177	2702	56751

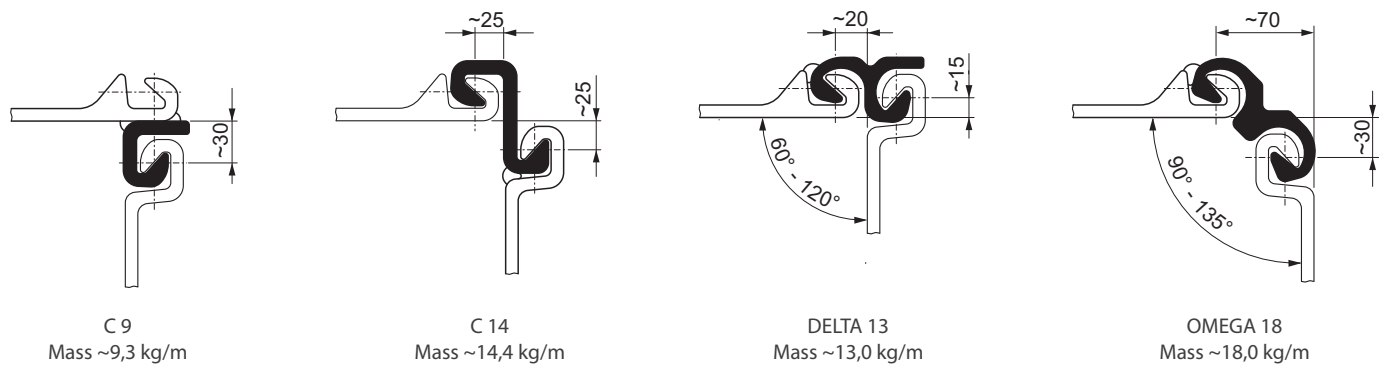
* One side excluding inside of interlocks

** Quoted figures for U sections represent the fully developed section modulus and moment of inertia. Designers should ensure full shear transfer in the interlock or consider appropriate project specific interlock shear reduction factors.

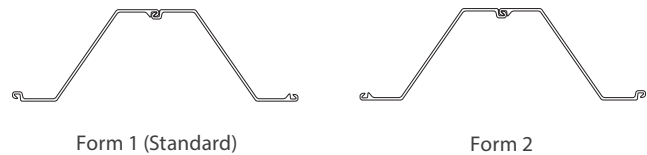
*** Profile no longer manufactured

Note: • Corner sections with Larsen interlocks suitable for these profiles can be supplied

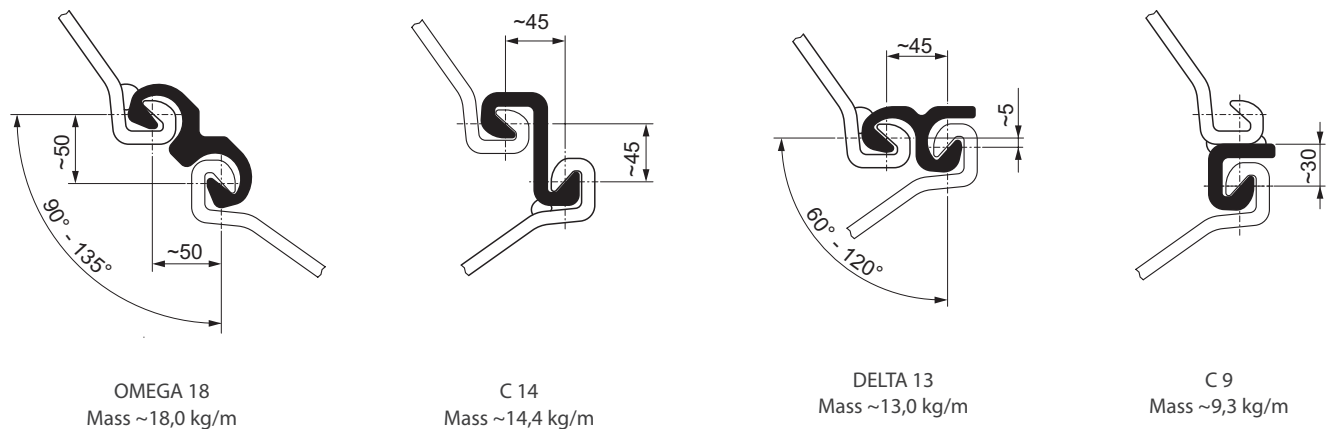
Corner Sections - Z Profile



- Where an Omega18 section is used the 'Form' of sheet pile changes. AZ sheet piles have different shaped interlocks. When driven at one end, the double pile is called 'Form 1'. 'Form 2' is the same shape pile but driven upside down relative to Form 1. Changing of Form needs to be considered to ensure correct positioning of lifting holes and coating
- Where a C14 or Delta13 is used the "Form" of sheet pile remains unchanged

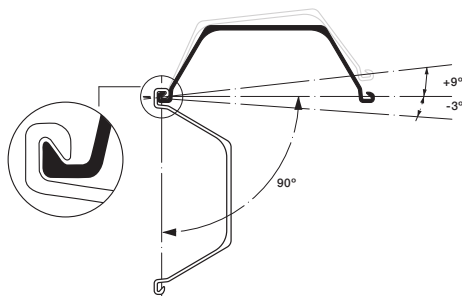


Corner Sections - U Profile



- U piles are symmetrical with identical interlocks so there is no "Form" change
- Where an Omega18 corner is used, the pan on both U piles face the same "outward" direction
- Where a C14 or Delta13 is used the pans on the piles each side of the corner face in opposite directions

CIII Connection and Rotation Detail



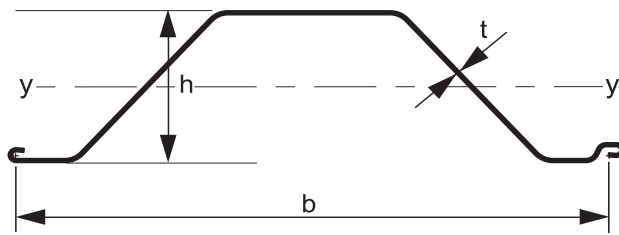
- Width: 400 mm
- Height: 125 mm
- Thickness: 13 mm
- Mass: 60 kg/m Single Pile
- Section Modulus: 1340 cm³/m

Note: • CIII Corner piles are driven as a separate single pile, they do not need to be welded to other sheet piles.
• CIII Corner piles are offered with our sheet pile rentals.

General Notes

- C9 sections can be welded to suit almost any design configuration
- C9 sections can be attached to tubular piles for combi wall construction
- J Steel will be pleased to assist you with your selection of corner sections

Steel Sheet Piling - Cold Rolled Omega Sections



Omega piles, named for their shape, differ from U piles in that the interlocks are located on one face of the wall away from the neutral axis.

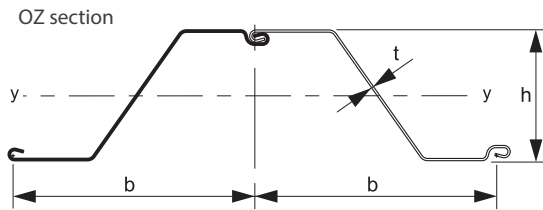
- Clutch position allows sheet piling installation close to existing structures
- Continuous through the web removing the need for interlock shear reduction factors in design
- Light weight economical sections
- Shallow sections allow minimum wall depth
- Uniform section thickness

Section	Width b mm	Height h mm	Thickness t mm	Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus cm ³ /m	Moment of Inertia cm ⁴ /m
						kg/m Single Pile	kg/m ² of Wall		
OΩ Sections									
OΩ700/275	700	146	4.0	56.0		30.8	44.0	265	1945
OΩ700/325	700	147	5.0	70.3		38.6	55.2	328	2417
OΩ700/400	700	148	6.0	84.1		46.2	66.0	392	2910
OΩ750/500	750	250	4.0	63.6		37.4	49.9	511	6535
OΩ730/500	730	235	4.0			39.0	53.4	537	6646
OΩ750/625	750	251	5.0	79.2		46.6	62.2	632	8142
OΩ700/675	700	260	5.0	82.7		45.4	64.9	670	8802
OΩ750/750	750	252	6.0	94.7		55.7	74.3	750	9732
OΩ700/900	700	320	5.5	96.3		52.9	75.6	892	14361
OΩ750/950	750	253	7.0	116.6		68.6	91.5	956	11800
OΩ700/1050	700	320	6.5	113.7		62.5	89.3	1044	16917
OΩ750/1100	750	254	8.0	133.5		78.6	104.8	1093	13586

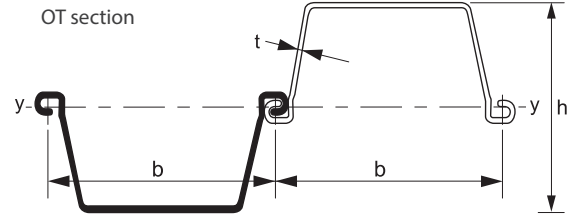
* One side excluding inside of interlocks

Note: Corner sections need to be fabricated on site or can be ordered from the mill

Steel Sheet Piling - Cold Rolled OZ/OT Sections



- Competitive section modulus to mass ratio, no interlock shear reduction factors
- Uniform section thickness



- The symmetrical form of U shape is convenient for re-use
- Uniform section thickness

Section	Width b mm	Height h mm	Thickness t mm	Sectional Area cm ² /m	Coating Area* m ² /m of Wall	Mass		Section Modulus** cm ³ /m	Moment of Inertia** cm ⁴ /m
						kg/m Single Pile	kg/m ² of Wall		
OZ Sections									
OZ 13A	675	392	6.5	104.7	1.46	55.5	82.2	1370	27251
OZ 14A	675	392	7.0	112.7	1.46	59.7	88.5	1470	29281
OZ 15A	675	392	7.5	120.7	1.46	64.0	94.8	1570	31325
OZ 16A	675	392	8.0	128.7	1.46	68.2	101.1	1670	33350
OZ 17A	685	392	8.5	134.5	1.46	72.3	105.6	1780	35558
OZ18A	685	392	9.0	142.5	1.46	76.6	111.8	1880	37580
OZ 19A	685	392	9.5	150.2	1.46	80.8	118.0	1970	39595
OZ 20A	685	392	10.0	158.2	1.46	85.1	124.2	2070	41601
OZ 20	650	429	8.0	138.8	1.57	70.8	108.8	1980	43293
OZ 21	650	429	8.5	147.1	1.57	75.1	115.5	2100	45912
OZ 22	650	429	9.0	155.5	1.57	79.4	122.1	2220	48521
OZ 23A	650	429	9.5	163.8	1.57	83.6	128.6	2330	51120
OZ 24A	650	429	10.0	172.3	1.57	87.9	135.2	2450	53709
OZ 26	675	429	10.5	181.0	1.58	95.9	142.1	2620	57410
OZ 27	675	429	11.0	188.3	1.58	99.8	147.9	2730	60043
OZ 28A	675	429	11.5	197.0	1.58	104.4	154.6	2850	62667
OZ 29A	675	429	12.0	205.5	1.58	108.9	161.3	2960	65281
OZ 31A	675	429	12.7	217.5	1.58	115.2	170.7	3120	68927
OZ 32	675	476	11.0	204.4	1.66	108.3	160.5	3180	77367
OZ 33	675	476	11.5	213.3	1.66	113.1	167.5	3320	80750
OZ 34A	675	476	12.0	222.4	1.66	117.8	174.6	3450	84121
OZ 36	675	476	12.5	231.3	1.66	122.5	181.5	3580	87473
OZ 37	675	476	13.0	240.1	1.66	127.3	188.5	3720	90830
OZ 38A	675	476	13.5	249.0	1.66	132.0	195.5	3850	94167
OZ 40	675	476	14.0	257.9	1.66	136.6	202.4	3980	97493
OT Sections									
OT 11A	600	360	8.0	131.8	1.47	62.1	103.5	1160	20765
OT 12	600	360	8.5	140.2	1.47	66.0	110.0	1220	21978
OT 13	600	360	9.0	148.3	1.48	69.9	116.4	1290	23182
OT 13A	600	360	9.5	156.5	1.48	73.7	122.9	1360	24375
OT 14	600	360	10.0	164.8	1.48	77.6	129.4	1420	25559
OT 18	600	485	8.0	150.3	1.70	70.8	118.0	1790	43421
OT 19	600	485	8.5	159.7	1.71	75.2	125.4	1890	45988
OT 20	600	485	9.0	169.2	1.71	79.7	132.7	2000	48537
OT 21	600	485	9.5	178.5	1.71	84.1	140.1	2100	51069
OT 22	600	485	10.0	187.3	1.71	88.5	147.4	2200	53584
OT 23	610	485	10.5	200.7	1.72	96.1	157.6	2290	56098
OT 24	610	485	11.0	210.3	1.72	100.7	165.1	2390	58583
OT 25	610	485	11.5	219.8	1.72	105.3	172.6	2490	61051
OT 26	610	485	12.0	229.5	1.72	109.9	180.1	2590	63503

* One side excluding inside of interlocks

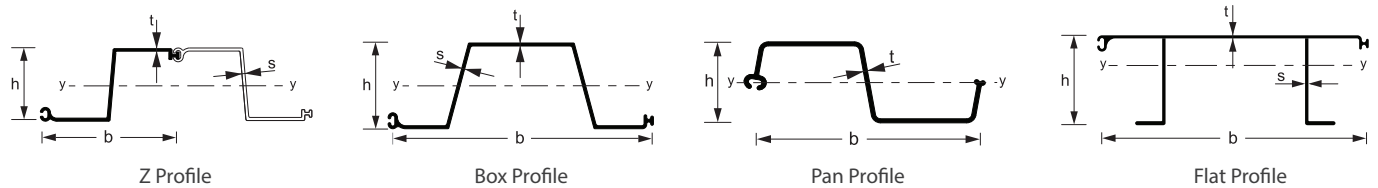
** Quoted figures for OT sections represent the fully developed section modulus and moment of inertia. Designers should ensure full shear transfer in the interlock or consider appropriate project specific interlock shear reduction factors. This does not apply to the OZ sections.

Note: • Corner sections need to be fabricated on site or can be ordered from the mill

Sydney (Head Office) +61 2 8198 9500 Perth +61 8 9278 4800 Auckland +64 9 6232 221
contact@jsteel.com.au | www.jsteel.com.au

Non Ferrous Sheet Piling

Vinyl, FRP and Aluminium Sections



- Light weight and easy to install
- Chemical and corrosion resistant
- Compatible capping and anchorage systems are available
- Water tight "TC" style interlocks
- Wide range of economical profiles
- FRP sheets have great strength to weight ratio, retaining applications up to 6m
- Ideal for a wide range of applications
- Attractive appearance:
 - Vinyl piles can be supplied in various colours
 - Aluminium piles can be anodised or painted

Section	Width b mm	Height h mm	Thickness		Profile	Allowable Moment* kNm/m	Section Modulus cm ³ /m	Moment of Inertia cm ⁴ /m
			t mm	s mm				
Vinyl								
SG-950	457	305	16.5	16.5	Z	67.37	3054	46567
SG-850	457	254	13.1	16.5	Z	44.12	2000	25400
SG-825	762	305	12.2	12.2	Box	43.53	1973	30043
FP-575**	610	229	12.1	7.4	Flat	37.01	1677	12430
SG-650	457	254	9.8	9.8	Z	35.11	1591	20212
SG-625	762	254	9.8	9.8	Box	28.94	1312	16660
FP-475**	610	178	6.1	6.4	Flat	24.32	1102	6145
CL-9900	610	229	8.9	8.9	Box	23.72	1075	12290
CL-9000	610	229	7.1	7.1	Box	19.22	871	9969
SG-425	610	203	7.2	7.2	Box	16.96	769	7784
SG-325	610	178	6.4	6.4	Box	13.17	597	5326
SG-225	457	127	5.7	5.7	Box	8.54	387	2458
FRP								
UC-95	762	432	13.7	13.7	Z	216.84	3145	67870
UC-75	610	356	10.9	10.2	Z	140.85	2043	36325
UC-50	914	254	9.0	8.3	Box	77.10	1118	14200
UC-30	457	203	6.7	6.4	Z	48.19	698	7101
Aluminium								
PZH - 159	381	254	5.9	5.6	Z	122.88	914	11610
PZH - 153	381	254	4.6	4.6	Z	93.96	699	8876
PZH - 7	305	152	6.2	6.2	Z	65.05	484	3687
PZH - 3	305	152	4.6	4.6	Z	52.77	393	3004
PZH - 1	305	152	3.7	3.7	Z	43.37	323	2458
PZM - 19	305	102	4.6	4.3	Z	29.64	220	1120
PZM - 16	305	102	3.9	3.6	Z	26.02	194	970
AWM - 8	305	102	3.1	3.1	Pan	20.24	151	751
AWM - 3	305	102	2.4	2.4	Pan	15.90	118	601
AWL - 8	305	64	2.8	2.8	Pan	10.12	75	232
AWL - 3	305	64	2.4	2.4	Pan	8.67	65	205

* Allowable moment is a simplified calculation for comparison and sizing of sections, this should be verified by the engineer.

** FP sections are not symmetrical. The quoted allowable moment and section modulus assume a simple wall and composite action with the soil back fill. On this basis the maximum allowable tensile design stress occurs on the front face and buckling restraint for the legs in compression on the back face is provided by the soil. These values will not apply if compression occurs on the front face (e.g. a cantilever wall) or if the back fill is not able to provide the buckling restraint. Please contact us to discuss further.

- Notes:
- Vinyl Sheet pile, recommended allowable design stress is 22MPa – incorporates allowance for creep (white paper available)
 - FRP sheet piles, recommended allowable design stress is 69MPa – reduced for buckling
 - Aluminium, grade 6081-T6, 262MPa ultimate tensile stress, recommended allowable design stress is 134MPa (white paper available)

Sydney (Head Office) +61 2 8198 9500 Perth +61 8 9278 4800 Auckland +64 9 6232 221
 contact@jsteel.com.au | www.jsteel.com.au

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