Parallel Flange Channels

Table 19 Parallel Flange Channels – Dimensions and Properties

Designation	Mass per metre	Depth of Section	Flange		Web Thickness	Root Radius	Depth Between Flanges			Gross Area of Cross Section	Coordinate of Centroid	Coordinate of Shear Centre	About x-axis				About y-axis					Torsion Constant	Warping Constant	Designation
			Width	Thickness				d_1	(b_f-t_w)															
		d	b_f	t_f	t_w	r_1	d_1	t_w	t_f	A_g	X_L	X_0	I_x	Z_x	S_x	r_x	I_y	Z_{yR}	Z_{yL}	S_y	r_y	J	I_w	
	kg/m	mm	mm	mm	mm	mm	mm			mm^2	mm	mm	10^6mm^4	10^3mm^3	10^3mm^3	mm	10^6mm^4	10^3mm^3	10^3mm^3	10^3mm^3	mm	10^3mm^4	10^9mm^6	
380 PFC	55.2	380	100	17.5	10.0	14.0	345	34.5	5.14	7030	27.5	56.7	152	798	946	147	6.48	89.4	236	161	30.4	491	152	380 PFC
300 PFC	40.1	300	90	16.0	8.0	14.0	268	33.5	5.13	5110	27.2	56.1	72.4	483	564	119	4.04	64.4	148	117	28.1	304	58.1	300 PFC
250 PFC	35.5	250	90	15.0	8.0	12.0	220	27.5	5.47	4520	28.6	58.5	45.1	361	421	99.9	3.64	59.3	127	107	28.4	248	35.9	250 PFC
230 PFC	25.1	230	75	12.0	6.5	12.0	206	31.7	5.71	3200	22.6	46.7	26.8	233	271	91.4	1.76	33.6	77.8	61.0	23.5	112	14.9	230 PFC
200 PFC	22.9	200	75	12.0	6.0	12.0	176	29.3	5.75	2920	24.4	50.5	19.1	191	221	80.9	1.65	32.7	67.8	58.9	23.8	105	10.5	200 PFC
180 PFC	20.9	180	75	11.0	6.0	12.0	158	26.3	6.27	2660	24.5	50.3	14.1	157	182	72.9	1.51	29.9	61.5	53.8	23.8	84.5	7.75	180 PFC
150 PFC	17.7	150	75	9.5	6.0	10.0	131	21.8	7.26	2250	24.9	51.0	8.34	111	129	60.8	1.29	25.7	51.6	46.0	23.9	56.6	4.56	150 PFC
125 PFC	11.9	125	65	7.5	4.7	8.0	110	23.4	8.04	1520	21.8	45.0	3.97	63.5	73.0	51.1	0.658	15.2	30.2	27.2	20.8	23.8	1.64	125 PFC
100 PFC	8.33	100	50	6.7	4.2	8.0	86.6	20.6	6.84	1060	16.7	33.9	1.74	34.7	40.3	40.4	0.267	8.01	16.0	14.4	15.9	13.6	0.419	100 PFC
75 PFC	5.92	75	40	6.1	3.8	8.0	62.8	16.5	5.94	754	13.7	27.2	0.683	18.2	21.4	30.1	0.120	4.56	8.71	8.20	12.6	8.42	0.103	75 PFC

Table 20 Parallel Flange Channels – Properties for Assessing Section Capacity

Designation	Yield Stress		Form Factor	About x-axis	About y-axis		Yield Stress		Form Factor	About x-axis	About y-axis		Designation
	Flange	Web			Load A	Load B	Flange	Web			Load A	Load B	
	f_y	f_y	k_f	Z_{ex}	Z_{ey}	Z_{ey}	f_y	f_y	k_f	Z_{ex}	Z_{ey}	Z_{ey}	
	MPa	MPa		10^3mm^3	10^3mm^3	10^3mm^3	MPa	MPa		10^3mm^3	10^3mm^3	10^3mm^3	
	300PLUS® *						**AS/NZS 3679.1-350**						
380 PFC	280	320	1.00	946	115	134	340	360	1.00	946	104	134	380 PFC
300 PFC	300	320	1.00	564	82.3	96.6	340	360	1.00	564	77.2	96.6	300 PFC
250 PFC	300	320	1.00	421	88.7	89.0	340	360	1.00	421	84.9	89.0	250 PFC
230 PFC	300	320	1.00	271	45.1	50.4	340	360	1.00	271	42.6	50.4	230 PFC
200 PFC	300	320	1.00	221	46.7	49.1	340	360	1.00	221	44.5	49.1	200 PFC
180 PFC	300	320	1.00	182	44.9	44.8	340	360	1.00	182	44.1	44.8	180 PFC
150 PFC	320	320	1.00	129	38.5	38.5	360	360	1.00	129	38.5	38.5	150 PFC
125 PFC	320	320	1.00	72.8	22.8	22.8	360	360	1.00	72.0	22.5	22.8	125 PFC
100 PFC	320	320	1.00	40.3	12.0	12.0	360	360	1.00	40.3	12.0	12.0	100 PFC
75 PFC	320	320	1.00	21.4	6.84	6.84	360	360	1.00	21.4	6.84	6.84	75 PFC

* 300PLUS® replaced Grade 250 as the base grade for these sections in 1994.
300PLUS® hot rolled sections are produced to exceed the minimum requirements of AS/NZS 3679.1-300.

Notes

1. For 300PLUS® sections the tensile strength (f_u) is 440 MPa.
2. For Grade 350 sections the tensile strength (f_u) is 480 MPa.
3. C: Compact Section; N: Non-compact Section; S: Slender Section. 3

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