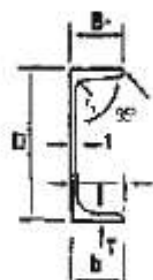


JIS CHANNELS

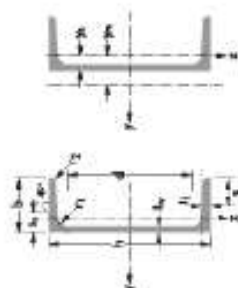
Size	Weight	Thickness		Corner Radius		Sectional Area	Moment of Inertia		Radius of Gyration		Modulus of Section	
		Web (t ₁)	Flange (t ₂)	r ₁	r ₂		J _x	J _y	i _x	i _y	Z _x	Z _y
A x B x t ₁	kg/m	mm	mm	mm	mm	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³
75x40x5	6.92	5	7	8	4	8.818	75.9	12.4	2.93	1.19	20.2	4.54
100x50x5	9.36	5	7.5	8	4	11.92	189	26.9	3.98	1.50	37.8	7.82
125x65x6	13.4	6	8	8	4	17.11	425	65.5	4.99	1.96	68.0	14.4
150x75x6.5	18.6	6.5	10	10	5	23.71	864	122	6.04	2.27	115	23.6
150x75x9	24.0	9	12.5	15	7.5	30.59	1060	151	5.87	2.22	141	29.1
180x75x7	21.4	7	10.5	11	5.5	27.20	1380	137	7.13	2.24	154	25.5
180x90x7.5	27.1	7.5	12.5	13	6.5	34.57	1840	258	7.29	2.73	204	42.0
200x80x7.5	24.6	7.5	11	12	6	31.33	1950	177.	7.89	2.38	195	30.8
200x90x8	30.3	8	13.5	14	7	38.65	2490	286	8.03	2.72	249	45.9
230x80x8	28.4	8	12	13	6.5	36.12	2900	200	8.96	2.35	252	34.2
230x90x8.5	33.1	8.5	13.5	15	7.5	42.14	3490	303	9.10	2.68	304	47.3
250x80x8	30.2	8	12.5	14	7	38.51	3630	210	9.71	2.34	291	35.7
250x90x9	34.6	9	13	14	7	44.07	4180	306	9.74	2.64	335	46.5
250x90x11	40.2	11	14.5	17	8.5	51.17	4690	342	9.57	2.58	375	51.7
280x100x9	38.8	9	13	14	7	49.37	5930	428	11.0	2.95	423	58.2
280x100x11.5	48.2	11.5	16	18	9	61.37	7150	515	10.8	2.90	510	70.4
300x90x9	38.1	9	12	14	7	48.57	6440	325	11.5	2.59	429	48.0
300x90x10	43.8	10	15.5	19	9.5	55.74	7400	373	11.5	2.59	494	56.0
380x100x10.5	54.5	10.5	16	18	9	69.39	14500	557	14.5	2.83	762	73.3
380x100x13	62.0	13	16.5	18	9	78.96	15600	584	14.1	2.72	822	75.8

CHANNELS

TO BS4: PART 1



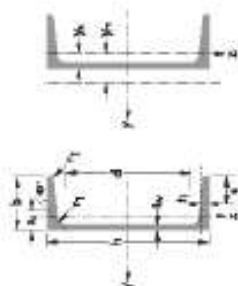
Designation		Depth of Section D mm	Width of Section B mm	Thickness		Root Radius r ₁ mm	Toe Radius r ₂ mm	Depth Between Fillets d mm	Ratios for Local Buckling		Second Moment of Area	
Serial Size mm	Mass per Metre D kg			Web t mm	Flange T mm				flange b/T	web d/t	Axis x-x cm ⁴	Axis y-y cm ⁴
432 x 102	65.54	431.8	101.6	12.2	16.8	15.2	4.8	362.4	6.05	29.7	21400	629
381 x 102	55.10	381.0	101.6	10.4	16.3	15.2	4.8	312.4	6.23	30.0	14900	580
305 x 102	46.18	304.8	101.6	10.2	14.8	15.2	4.8	239.2	6.86	23.5	8210	499
305 x 89	41.69	304.8	88.9	10.2	13.7	13.7	3.2	254.4	6.49	24.1	7060	325
254 x 89	35.74	254.0	88.9	9.1	13.6	13.7	3.2	194.7	6.54	21.4	4450	302
254 x 76	28.29	254.0	76.2	8.1	10.9	12.2	3.2	203.8	6.99	25.2	3370	163
229 x 89	32.76	228.6	88.9	8.6	13.3	13.7	3.2	169.8	6.68	19.7	3390	285
229 x 76	26.06	228.6	76.2	7.6	11.2	12.2	3.2	178.0	6.80	23.4	2610	159
203 x 89	29.78	203.2	88.9	8.1	12.9	13.7	3.2	145.2	6.89	17.9	2490	264
203 x 76	23.82	203.2	76.2	7.1	11.2	12.2	3.2	152.5	6.80	21.5	1950	151
178 x 89	26.81	177.8	88.9	7.6	12.3	13.7	3.2	121.0	7.23	15.9	1750	241
178 x 76	20.84	177.8	76.2	6.6	10.3	12.2	3.2	128.8	7.40	19.5	1340	134
152 x 89	23.84	152.4	88.9	7.1	11.6	13.7	3.2	97.0	7.66	13.7	1170	215
152 x 76	17.88	152.4	76.2	6.4	9.0	12.2	2.4	105.9	8.47	16.5	852	114
127 x 64	14.90	127.0	63.5	6.4	9.2	10.7	2.4	84.0	6.90	13.1	483	67.2
102 x 51	10.42	101.6	50.8	6.1	7.6	9.1	2.4	65.7	6.68	10.8	208	29.1
76 x 38	6.70	76.2	38.1	5.1	6.8	7.6	2.4	45.8	5.60	8.98	74.1	10.7



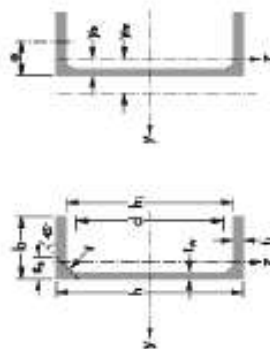
EUROPEAN STANDARD CHANNELS (UPN)
DIMENSIONS: DIN 10261 - 1:2000, NF A 45202 (1983)
TOLERANCES: EN 10279 : 2000

Designation	G kg/m	Dimensions						A mm	Dimensions for Detailing				Surface	
		h mm	b mm	t _w mm	t _f mm	r ₁ mm	r ₂ mm		d mm	Ø	e _{min} mm	e _{max} mm	A _L mm	A _g m ²
UPN 80	08.64	80	45	6.0	8.0	8.0	4.00	11.0	46	-	-	-	0.312	36.13
UPN 100	10.60	100	50	6.0	8.5	8.5	4.50	13.5	64	M10	31	34	0.372	35.1
UPN 120	13.40	120	55	7.0	9.0	9.0	4.50	17.0	82	M10	32	39	0.434	32.52
UPN 140	16.00	140	60	7.0	10.0	10.0	5.00	20.4	98	M12	37	41	0.489	30.54
UPN 160	18.80	160	65	7.5	10.5	10.5	5.50	24.0	115	M16	38	38	0.546	28.98
UPN 180	22.00	180	70	8.0	11.0	11.0	5.50	28.0	133	M16	38	43	0.611	27.8
UPN 200	25.30	200	75	8.5	11.5	11.5	6.00	32.2	151	M16	39	48	0.661	26.15
UPN 220	29.40	220	80	9.0	12.5	12.5	6.50	37.4	167	M20	44	47	0.718	24.46
UPN 240	33.20	240	85	9.5	13.0	13.0	6.50	42.3	184	M20	45	52	0.775	23.34
UPN 260	37.90	260	90	10.0	14.0	14.0	7.00	48.3	200	M24	51	51	0.834	22
UPN 280	41.80	280	95	10.0	15.0	15.0	7.50	53.3	216	M24	52	56	0.890	21.27
UPN 300	46.20	300	100	10.0	16.0	16.0	8.00	58.8	232	M24	53	61	0.950	20.58
UPN 320	59.50	320	100	14.0	17.5	17.5	8.75	75.8	246	M24	59	61	0.982	16.5
UPN 350	60.60	350	100	14.0	16.0	16.0	8.00	77.3	282	M24	57	61	1.047	17.25
UPN 380	63.10	380	102	13.5	16.0	16.0	8.00	80.4	313	M24	57	63	1.110	17.59
UPN 400	71.80	400	110	14.0	18.0	18.0	9.00	91.5	324	M27	59	65	1.182	16.46

EUROPEAN STANDARD CHANNELS (UPN)
DIMENSIONS: DIN 10261 - 1:2000, NF A 45202 (1983)
TOLERANCES: EN 10279 : 2000



Designation	G kg/m	Section Properties												Classification ENV 1993 -1-1			
		Strong axis y-y						Weak axis z-z									
		I_y cm ⁴	W_{py} cm ³	i_y cm	A_{yz} cm ²	I_z cm ⁴	W_{pz} cm ³	I_z cm ⁴	S_z cm ³	I_T cm ⁴	$I_p \times 10^3$ cm ⁴	y_s cm	y_m cm	$F_{t,Ed}$	$F_{t,Ed}$	$F_{t,Ed}$	$F_{t,Ed}$
UPN 80	8.64	106	26.5	31.8	3.1	5.1	19.4	6.36	12.1	1.33	19.4	2.16	0.17	1.45	2.67	1	1
UPN 100	10.6	206	41.2	49	3.91	6.46	29.3	8.49	16.2	1.47	20.3	2.81	0.41	1.55	2.93	1	1
UPN 120	13.4	364	60.7	72.6	4.62	8.8	43.2	11.1	21.2	1.59	22.2	4.15	0.9	1.6	3.03	1	1
UPN 140	16.0	605	86.4	103	5.45	10.41	62.7	14.8	28.3	1.75	23.9	5.68	1.8	1.75	3.37	1	1
UPN 160	18.8	925	116	138	6.21	12.6	85.3	18.3	35.2	1.89	25.3	7.39	3.26	1.84	3.56	1	1
UPN 180	22.0	1350	150	179	6.95	15.09	114	22.4	42.9	2.02	26.7	9.55	5.57	1.92	3.75	1	1
UPN 200	25.3	1910	191	228	7.7	17.71	148	27	51.8	2.14	28.1	11.9	9.07	2.01	3.94	1	1
UPN 220	29.4	2690	245	292	8.48	20.62	197	33.6	64.1	2.3	30.3	16	14.6	2.14	4.2	1	1
UPN 240	33.2	3600	300	358	9.22	23.71	248	39.6	75.7	2.42	31.7	19.7	22.1	2.23	4.39	1	1
UPN 260	37.9	4820	371	442	9.99	27.12	317	47.7	91.6	2.56	33.9	25.5	33.3	2.36	4.66	1	1
UPN 280	41.8	6280	448	532	10.9	29.28	399	57.2	109	2.74	35.6	31	48.5	2.53	5.02	1	1
UPN 300	46.2	8030	535	632	11.7	31.77	495	67.8	130	2.9	37.3	37.4	69.1	2.7	5.41	1	1
UPN 320	59.5	10870	679	826	12.1	47.11	597	80.6	152	2.81	43	66.7	96.1	2.6	4.82	1	1
UPN 350	60.6	12840	734	918	12.9	50.84	570	75	143	2.72	40.7	61.2	114	2.4	4.45	1	1
UPN 380	63.1	15760	829	1014	14	53.23	615	78.7	148	2.77	40.3	59.1	146	2.38	4.58	1	1
UPN 400	71.8	20350	1020	1240	14.9	58.55	846	102	190	3.04	44	81.6	221	2.65	5.11	1	1



PARALLEL FLANGE CHANNELS (PFC)
DIMENSIONS: BS 4-1: 1993
TOLERANCES: EN 10279: 2000

Designation	Mass per metre kg/mtr	Depth of Section h mm	Width of Section h mm	Thickness		Distance of Cy cm	Radius Root r ₁ mm	Depth between Fillets d mm	Ratios for local Buckling		Second Moment of Area	
				Web s mm	Flange t mm				Flange b/t	Web d/s	Axis x-x cm ²	Axis y-y cm ²
100x50x10	10.2	100	50	5.0	8.5	1.73	9	65	5.88	13.0	13.0	32.3
125x65x15	14.8	125	65	5.5	9.5	2.25	12	82	6.84	14.9	14.9	80.0
150x75x18	17.9	150	75	5.5	10.0	2.58	12	106	7.50	19.3	19.3	131
150x90x24	23.9	150	90	6.5	12.0	3.30	12	102	7.50	15.7	15.7	253
180x75x20	20.3	180	75	6.0	10.5	2.41	12	135	7.14	22.5	22.5	146
180x90x26	26.1	180	90	6.5	12.5	3.17	12	131	7.20	20.2	20.2	277
200x75x23	23.4	200	75	6.0	12.5	2.48	12	151	6.00	25.2	25.2	170
200x90x30	29.7	200	90	7.0	14.0	3.12	12	148	6.43	21.1	21.1	314
230x75x26	25.7	230	75	6.5	12.5	2.30	12	181	6.00	27.8	27.8	181
230x90x32	32.2	230	90	7.5	14.0	2.92	12	178	6.43	23.7	23.7	334
260x75x28	27.6	260	75	7.0	12.0	2.10	12	212	6.25	30.3	30.3	185
260x90x35	34.8	260	90	8.0	14.0	2.74	12	208	6.43	26.0	26.0	353
300x90x41	41.4	300	90	9.0	15.5	2.60	12	245	5.81	27.2	27.2	404
300x100x46	45.5	300	100	9.0	16.5	3.05	15	237	6.06	26.3	26.3	568
380x100x54	54.0	380	100	9.5	17.5	2.79	15	315	5.71	33.2	33.2	643
430x100x64	64.4	430	100	11.0	19.0	2.62	15	362	5.26	32.9	32.9	722

PARALLEL FLANGE CHANNELS (PFC)
DIMENSIONS: BS 4-1: 1993
TOLERANCES: EN 10279: 2000



Designation	Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter U	Torsional Index x	Ratios for local Buckling		Second Moment of Area	
	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y			Flange b/t	Web d/s	Axis x-x cm ⁴	Axis y-y cm ⁴
	cm	cm	cm ⁴	cm ⁴	mm ³	cm ³						
100x 50x10	4.00	158	41.5	9.89	48.9	175	0.942	10.0	0.000491	2.53	13.0	10.2
125x 65x15	5.07	2.06	773	18.8	89.9	33.2	0.942	11.1	0.00194	4.72	18.8	14.8
150x 75 x 18	6.15	2.40	115	26.6	132	47.2	0.946	13.1	0.00467	6.10	22.8	17.9
150x 90 x 24	6.18	2.89	155	44.4	179	76.9	0.936	10.8	0.00890	11.8	30.4	23.9
180x 75x20	7.27	2.38	152	28.8	176	51.8	0.946	15.3	0.00754	7.34	25.9	20.3
180x 90x26	7.40	2.89	202	47.4	232	83.5	0.949	12.8	0.0141	13.3	33.2	26.1
200x 90x 30	8.16	2.88	252	53.4	291	94.5	0.954	12.9	0.0197	18.3	37.9	29.7
200x75x23	8.11	2.39	196	33.8	227	60.6	0.956	14.8	0.0107	11.1	29.9	23.4
230x75x26	9.17	2.35	239	34.8	278	63.2	0.947	17.3	0.0153	11.8	32.7	25.7
230x90 x32	9.27	2.86	306	55.0	355	98.9	0.950	15.1	0.0279	19.3	41.0	32.2
260x75x28	10.1	2.30	278	34.4	328	62.0	0.932	20.5	0.0203	11.7	35.1	27.6
260x90 x35	10.3	2.82	364	56.3	425	102	0.942	17.2	0.0379	20.6	44.4	34.8
300x 90 x 41	11.7	2.77	481	63.1	568	114	0.934	18.4	0.0581	28.8	52.7	41.4
300x 100x 46	11.9	3.13	549	81.7	641	148	0.944	17.0	0.0813	36.8	58.0	45.5
380x 100x54	14.8	3.06	791	89.2	933	161	0.932	21.2	0.150	45.7	68.7	54.0
430x 100x 64	16.3	2.97	1020	97.9	1222	176	0.917	22.3	0.219	63.0	82.1	64.4