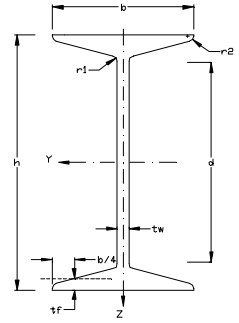


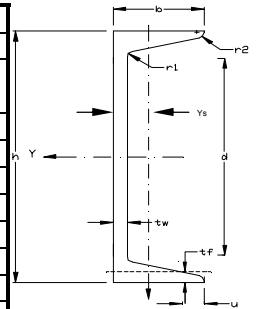
IPN

Designación	Dimensiones				Peso P kg/m	Area A cm ²	Propiedades							
	Altura	Alas		Alma			Eje fuerte y-y				Eje débil z-z			
	h	b	t _f	t _w			I _y cm ⁴	S _y cm ³	Z _y cm ³	r _y cm	I _z cm ⁴	S _z cm ³	Z _z cm ³	r _z cm
	mm													
IPN 80	80	42	4.6	5.4	6.01	7.66	74.9	18.7	22	3.13	5.69	2.71	4.68	0.86
IPN 100	100	50	6.8	4.5	8.34	10.6	170	34.1	39.4	4	12.1	4.86	8.19	1.07
IPN 120	120	58	7.7	5.1	11.1	14.2	327	54.5	63.1	4.8	21.4	7.38	12.5	1.23
IPN 140	140	66	8.6	5.7	14.3	18.2	572	81.8	94.5	5.6	35.1	10.6	18	1.39
IPN 160	160	74	9.5	6.3	17.9	22.8	934	117	135	6.4	54.6	14.7	25	1.55
IPN 180	180	82	10.4	6.9	21.9	27.9	1440	160	185	7.2	81.2	19.8	33.6	1.71
IPN 200	200	90	11.3	7.5	26.2	33.4	2140	214	247	8	116	25.9	43.9	1.87
IPN 240	240	106	13.1	8.7	36.2	46.1	4240	353	408	9.59	220	41.5	70.6	2.19
IPN 300	300	125	16.2	10.8	54.2	69	9790	652	756	11.9	449	71.9	123	2.55



UPN

Designación	Dimensiones				Peso P kg/m	Area A cm ²	Propiedades								
	Altura	Alas		Alma			Eje fuerte y-y				Eje débil z-z				
	h	b	t _f	t _w			I _y cm ⁴	S _y cm ³	Z _y cm ³	r _y cm	Y _s cm	I _z cm ⁴	S _z cm ³	Z _z cm ³	r _z cm
	mm														
UPN 80	80	35	7	4.5	6.16	7.84	75.7	18.9	22.7	3.11	1.1	8.44	3.52	6.7	1.04
UPN 100	100	40	8	5	8.3	10.6	159	31.9	37.9	3.88	1.22	14.8	5.32	10.2	1.18
UPN 120	120	45	8	5	9.69	12.3	271	45.1	53.9	4.68	1.31	21.7	6.8	13.0	1.33
UPN 140	140	50	8.5	5	11.5	14.6	442	63.1	75.2	5.5	1.44	31.9	8.96	17.1	1.48
UPN 160	160	50	9	5.5	13.2	16.8	640	80	95.2	6.18	1.36	35.3	9.7	18.7	1.45
UPN 180	180	55	9.5	6	15.7	20	961	107	127.7	6.93	1.46	50.3	12.4	23.7	1.58
UPN 200	200	60	10	6	17.8	22.7	1370	137	163.5	7.75	1.59	68.7	15.6	29.9	1.74
UPN 240	240	65	11	6.5	22.3	28.4	2420	202	241.1	9.24	1.66	98.7	20.4	39.0	1.86
UPN 300	300	75	13	8	32.4	41.3	5350	357	421.7	11.4	1.84	184	32.5	62.3	2.11



ANGULAR

Designación	L d x d x t _f mm x mm x mm	k mm	Peso P kgf/m	Area A cm ²	Propiedades						
					Ejes X-X e Y-Y					Eje Z-Z	Eje N-N
					I cm ⁴	S cm ³	Z cm ³	r cm	x=y cm	r _z cm	r _n cm
L 20x 20x 3	7	0.879	1.12	0.388	0.276	0.511	0.589	0.60	0.376	0.743	
x 4	7	1.14	1.45	0.488	0.358	0.643	0.58	0.64	0.378	0.728	
L 25x 25x 3	7	1.11	1.42	0.796	0.447	0.826	0.749	0.72	0.476	0.946	
x 4	7	1.45	1.85	1.01	0.582	1.053	0.74	0.76	0.476	0.931	
L 30x 30x 3	8	1.36	1.74	1.40	0.649	1.216	0.899	0.84	0.567	1.14	
x 5	10	2.18	2.78	2.16	1.04	1.881	0.883	0.92	0.569	1.11	
L 35x 35x 4	9	2.09	2.67	2.95	1.18	2.172	1.05	1.00	0.669	1.33	
x 6	11	3.04	3.87	4.13	1.71	3.055	1.03	1.08	0.669	1.30	
L 40x 40x 4	10	2.42	3.08	4.47	1.55	2.882	1.21	1.12	0.762	1.52	
x 6	12	3.52	4.48	6.31	2.26	4.089	1.19	1.20	0.762	1.50	
L 50x 50x 4	11	3.06	3.89	8.97	2.46	4.602	1.52	1.36	0.956	1.92	
x 5	12	3.77	4.80	11.0	3.05	5.629	1.51	1.40	0.957	1.91	
x 7	14	5.15	6.56	14.6	4.16	7.538	1.49	1.49	0.956	1.88	
L 65x 65x 5	14	4.99	6.36	25.0	5.27	9.753	1.98	1.76	1.25	2.51	
x 6	15	5.91	7.53	29.2	6.21	11.511	1.97	1.80	1.24	2.49	
X 7	16	6.83	8.7	33.4	7.18	13.206	1.96	1.85	1.24	2.48	
L 75x 75x 7	17	7.94	10.1	52.3	9.67	17.859	2.27	1.09	1.44	2.88	
x 8	18	9.00	11.5	58.9	11.0	20.117	2.27	2.13	1.44	2.86	
L 90x 90x 7	18	9.61	12.2	92.5	14.1	26.153	2.75	2.45	1.74	3.48	
L 100x100x8	20	12.20	15.5	145	19.9	36.812	3.06	2.74	1.93	3.87	
x10	22	5.00	19.2	177	24.6	45.030	3.04	2.82	1.93	3.84	
L 110x110x 8	20	3.40	17.1	195	24.4	44.891	3.38	2.99	2.13	4.27	
x10	22	6.60	21.2	239	30.1	55.027	3.36	3.07	2.13	4.25	
L 120x120x10	23	8.20	23.2	313	36	66.025	3.67	3.31	2.33	4.65	
x12	25	21.60	27.5	368	42.7	77.807	3.65	3.40	2.32	4.62	

