

Perfiles (Vigas)

Descripción General

Los perfiles de acero de sección abierta comúnmente conocidos como "Vigas", son elementos de sección transversal abierta en forma de I o doble T, U y H fabricados por laminación en caliente de aceros estructurales logrando secciones longitudinalmente uniformes de esquinas y aristas redondeadas en las uniones ala/alma.

Los perfiles de acero de sección abierta son utilizados en la industria de la construcción como columnas, vigas y correas. Su sección les permite un excelente comportamiento ante esfuerzos de flexión y flexo-compresión axial.

Información Técnica

NORMAS

COVENIN 1149 Perfiles (IPN) de alas inclinadas de acero, laminados en caliente

COVENIN 1037 Perfiles canal ligero (UPL) de acero, laminados en caliente.

PROPIEDADES Y TOLERANCIAS

De acuerdo con lo establecido en las Normas **COVENIN 1149 y COVENIN 1037**

Tabla Comercial del Producto

PESOS Y MEDIDAS

h: Altura del Perfil t: Espesor del Ala I: Momento de Inercia.
b: Ancho del Perfil r1: Radio Externo del Ala S: Momento de resistencia.
s: Espesor del Alma r2: Radio Interno entre Ala y Alma R: Radio de Inercia

PERFILES LAMINADOS EN CALIENTE "IPN"

IPN		Dimensiones (mm)						Área	Peso	Momento respecto a los ejes					
										EJE-X-X			EJE-Y-Y		
		h	b	s	t	r1	r2			Ix	Sx	Rx	Iy	Sy	Ry
		mm	mm	mm	mm	mm	mm	cm ²	Kg/m	cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
Nacionales	80	80	42	4.2	5.9	3.9	2.3	7.77	6.10	78.40	19.6	3.18	6.29	2.99	0.90
	100	100	50	4.5	6.8	4.5	2.7	10.60	8.34	170.00	34.1	4.0	12.1	4.86	1.07
	120	120	58	5.1	7.7	5.1	3.1	14.20	11.10	327.00	54.5	4.8	21.4	7.38	1.23
	140	140	66	5.7	8.6	5.7	3.4	18.20	14.30	572.00	81.8	5.6	35.1	10.6	1.39
	160	160	74	6.3	9.5	6.3	3.8	22.8	17.90	935.0	117.0	6.40	54.70	14.80	1.55

180	180	82	6.9	10.4	6.9	4.1	27.9	21.90	450.0	161.0	7.20	81.30	19.80	1.71
200	200	90	7.5	11.3	7.5	4.5	33.4	26.20	2140.0	214.0	8.00	117.00	26.00	1.87
220	220	98	8.1	12.2	8.1	4.9	39.5	31.10	3060.0	278.0	8.80	162.00	33.10	2.02
240	240	106	8.7	13.1	8.7	5.2	46.1	36.20	4250.0	354.0	9.59	221.00	41.70	2.20
260	260	113	9.4	14.1	9.4	5.6	53.3	41.90	5740.0	442.0	10.40	288.00	51.00	2.32
280	280	119	10.1	15.2	10.1	6.1	61.0	47.90	5790.0	542.0	11.10	364.00	61.20	2.45
300	300	125	10.8	16.2	10.8	6.5	69.0	54.20	9800.0	653.0	11.90	451.00	72.20	2.56
320	320	131	11.5	17.3	11.5	6.9	77.7	61.00	12510.0	782.0	12.70	555.00	84.70	2.67
340	340	137	12.2	18.3	12.2	7.3	86.7	68.00	15700.0	923.0	13.50	674.00	98.40	2.80
360	360	143	13.0	19.5	13.0	7.8	97.0	76.10	19610.0	1090.0	14.20	818.00	114.00	2.90
380	380	149	13.7	20.5	13.7	8.2	107.0	84.00	5410.0	1260.0	15.00	975.00	131.00	3.02
400	400	155	14.4	21.6	14.4	8.6	118.0	92.40	29210.0	1460.0	15.70	1160.00	149.00	3.13
425	425	163	15.3	23.0	15.3	9.2	132.0	104.00	36970.0	1740.0	16.70	1440.00	176.00	3.30
450	450	170	16.2	24.3	16.2	9.7	147.0	115.00	45850.0	2040.0	17.70	1730.00	203.00	3.43
475	475	178	17.1	25.6	17.1	10.3	163.0	128.00	56480.0	2380.0	18.60	2090.00	235.00	3.60
500	500	185	18.0	27.0	18.0	10.8	179.0	141.00	68740.0	2750.0	19.60	2480.00	268.00	3.72
550	550	200	19.0	30.0	19.0	11.9	212.0	166.00	99180.0	3610.0	21.60	3490.00	349.00	4.02
600	600	215	21.6	32.4	21.6	13.0	254.0	199.00	139000.0	4630.0	23.40	4670.00	434.00	4.30

Altura (mm)	Peso (Kgfl/m)	Peso/Pieza (Kgfl/pza)	Embalaje (pza/atado)	Peso atado (Kgfl/atado)	Longitud (m)
80	6,10	73,20	20	1.464	12
100	8,34	100,08	20	2.002	12
120	11,10	133,20	12	1.598	12
140	14,30	171,60	12	2.059	12

PERFILES LAMINADOS EN CALIENTE "IPE"

IPE	Dimensiones (mm)					Área	Peso	Momento respecto a los ejes					
								EJE-X-X			EJE-Y-Y		
	h	b	s	t	r			Ix	Sx	Rx	Iy	Sy	Ry
	mm	mm	mm	mm	mm			cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
80	80	46	3.8	5.2	5,00	7.64	6.0	80.1	20.0	3.24	8.48	3.69	1.05
100	100	55	4.1	5.7	7,00	10.30	8.1	171	34.2	4.07	15.90	5.78	1.24
120	120	64	4.4	6.3	7,00	13.20	10.4	318	53.0	4.90	27.60	8.64	1.45
140	140	73	4.7	6.9	7,00	16.40	12.9	541	77.3	5.74	44.90	12.30	1.65
160	160	82	5.0	7.4	9,00	20.10	15.8	869	109.0	6.58	68.20	16.60	1.84
180	180	91	5.3	8.0	9,00	23.90	18.8	1320	146.0	7.42	101.00	22.10	2.05
200	200	100	5.6	8.5	12,00	28.50	22.4	1940	194.0	8.26	142.00	28.40	2.23
220	220	110	5.9	9.2	12,00	33.40	26.2	2770	252.0	9.11	205.00	37.20	2.48
240	240	120	6.2	9.8	15,00	39.10	30.7	3890	324.0	9.97	283.00	47.20	2.69
270	270	135	6.6	10.2	15,00	45.90	36.1	5790	429.0	11.20	419.00	62.10	3.02
300	300	150	7.1	10.7	15,00	53.80	42.2	8360	557.0	12.50	603.00	80.40	3.35

330	330	160	7.5	11.5	18,00	62.60	49.1	11800	713.0	13.70	787.00	98.40	3.55
360	360	170	8.0	12.7	18,00	72.70	57.1	16300	904.0	15.00	1040.00	123.00	3.79
400	400	180	8.6	13.5	21,00	84.50	66.3	23100	1160.0	16.50	1320.00	146.00	3.95
450	450	190	9.4	14.6	21,00	98.80	77.6	33700	1500.0	18.50	1670.00	176.00	4.12
500	500	200	10.2	16.0	21,00	116.00	90.7	48200	1930.0	20.40	2140.00	214.00	4.30
550	550	210	11.1	17.2	24,00	134.00	106.0	67100	2440.0	22.30	2660.00	254.00	4.45
600	600	220	12.0	19.0	24,00	156.00	122.0	92100	3070.0	24.30	3380.00	308.00	4.66

PERFILES LAMINADOS EN CALIENTE “HEA”

HEA	Dimensiones (mm)					Área	Peso	Momento respecto a los ejes					
								EJE X-X			EJE Y-Y		
	h	b	s	t	r			Ix	Sx	Rx	Iy	Sy	Ry
	mm	mm	mm	mm	mm			cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
100	96	100	5.0	8.0	12	21.2	16.7	349	72.7	4.05	134	26.7	2.51
120	114	120	5.0	8.0	12	25.3	19.9	606	106.0	4.89	231	38.4	3.02
140	133	140	5.5	8.5	12	31.4	27.7	1030	155.0	5.73	389	55.6	3.52
160	152	160	6.0	9.0	15	38.8	30.4	1670	220.0	6.57	615	76.9	3.98
180	171	180	6.0	9.5	15	45.3	35.5	2510	294.0	7.45	924	103.0	4.52
200	190	200	6.5	10.0	18	53.8	42.3	3690	389.0	8.28	1330	133.0	4.98
220	210	220	7.0	11.0	18	64.3	50.5	5410	515.0	9.17	1950	178.0	5.51
240	230	240	7.5	12.0	21	76.8	60.3	7760	675.0	10.10	2770	231.0	6.00
260	250	260	7.5	12.5	24	86.8	68.2	0500	836.0	11.00	3660	282.0	6.50
280	270	280	8.0	13.0	24	97.3	76.4	13700	1010.0	11.90	4760	340.0	7.00
300	290	300	8.5	14.0	27	113.0	88.3	18300	1260.0	12.70	6310	420.0	7.49
320	310	300	9.0	15.5	27	124.0	97.6	22900	1480.0	13.60	6980	465.0	7.49
340	330	300	9.5	16.5	27	133.0	105.0	27700	1680.0	14.40	7430	495.0	7.46
360	350	300	10.0	17.5	27	143.0	112.0	33100	1890.0	15.20	7880	525.0	7.43
400	390	300	11.0	19.0	27	159.0	125.0	45100	2310.0	16.80	8560	571.0	7.34
450	440	300	11.5	21.0	27	178.0	140.0	63700	2900.0	18.90	9460	631.0	7.29
500	490	300	12.0	23.0	27	198.0	155.0	87000	3550.0	21.00	10400	691.0	7.24
550	540	300	12.5	24.0	27	212.0	166.0	112000	4150.0	23.00	10800	721.0	7.15
600	590	300	13.0	25.0	27	226.0	178.0	141000	4790.0	25.00	11300	751.0	7.05
650	640	300	13.5	26.0	27	242.0	190.0	175000	5470.0	26.90	11700	781.0	6.96
700	690	300	14.5	27.0	27	260.0	204.0	215000	6240.0	28.70	12200	812.0	6.84
800	790	300	15.0	28.0	30	286.0	224.0	303000	7680.0	32.60	12600	842.0	6.65
900	890	300	16.0	30.0	30	321.0	252.0	422000	9480.0	36.30	13500	903.0	6.50
1000	990	300	16.5	31.0	30	347.0	272.0	554000	11200.0	40.00	14000	933.0	6.35

PERFILES LAMINADOS EN CALIENTE “HEB”

HEB	Dimensiones (mm)					Área	Peso	Momento respecto a los ejes					
								EJE X-X			EJE Y-Y		
	h	b	s	t	r			Ix	Sx	Rx	Iy	Sy	Ry

	mm	mm	mm	mm	mm	cm ²	Kg/m	cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
100	100	100	6.0	10.0	12	26.0	20.4	449	89.9	4.15	167	33.4	2.53
120	120	120	6.5	11.0	12	34.0	26.7	864	144	5.04	317	52.9	3.05
140	140	140	7.0	12.0	12	43.0	33.7	1510	216	5.93	549	78.5	3.58
160	160	160	8.0	13.0	15	54.3	42.6	2490	311	6.78	889	111	4.05
180	180	180	8.5	14.0	15	65.3	51.2	3830	426	7.66	1360	151	4.57
200	200	200	9.0	15.0	18	78.1	61.3	5700	570	8.54	2000	200	5.06
220	220	220	9.5	16.0	18	91.0	71.5	8090	736	9.43	2840	258	5.59
240	240	240	10.0	17.0	21	106	83.2	11300	938	10.3	3920	327	6.08
260	260	260	10.0	17.5	24	118	93.0	14900	1150	11.2	5130	395	6.58
280	280	280	10.5	18.0	24	131	103	19300	1380	12.1	6590	471	7.08
300	300	300	11.0	19.0	27	149	117	25200	1680	13.0	8560	571	7.58
320	320	300	11.5	20.5	27	161	127	30800	1930	13.8	9230	616	7.57
340	340	300	12.0	21.5	27	171	134	36700	2160	14.6	9680	646	7.53
360	360	300	12.5	22.5	27	181	142	43200	2400	15.5	10100	676	7.49
400	400	300	13.5	24.0	27	198	155	57700	2880	17.1	10800	721	7.39
450	450	300	14.0	26.0	27	218	171	79900	3550	19.1	11700	781	7.33
500	500	300	14.5	28.0	27	239	187	107000	4290	21.2	12600	841	7.27
550	550	300	15.0	29.0	27	254	199	137000	4970	23.2	13100	871	7.17
600	600	300	15.5	30.0	27	270	212	171000	5700	25.2	13500	902	7.08
650	650	300	16.0	31.0	27	286	225	211000	6480	27.1	14000	932	6.99
700	700	300	17.0	32.0	27	306	241	257000	7340	29.0	14400	962	6.86
800	800	300	17.5	33.0	30	334	262	359000	8980	32.8	14900	993	6.68
900	900	300	18.5	35.0	30	371	291	494000	11000	36.5	15800	1050	6.52
1000	1000	300	19.0	36.0	30	400	314	645000	12900	40.1	16300	1080	6.38

PERFILES LAMINADOS EN CALIENTE "UPN"

UPN	Dimensiones (mm)						Área	Peso	Momento respecto a los ejes					
									EJE-X-X			EJE-Y-Y		
	h	b	s	t	r1	r2			Ix	Sx	Rx	Iy	Sy	Ry
	mm	mm	mm	mm	mm	mm			cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
80	80	45	6.0	8.0	8.0	4.0	11.0	8.65	106	26.5	3.10	19.4	6.35	1.33
100	100	50	6.0	8.5	8.5	4.5	13.5	10.6	205	41.1	3.91	29.1	8.45	1.47
120	120	55	7.0	9.0	9.0	4.5	17.0	13.3	364	60.7	4.63	43.1	11.10	1.59
140	140	60	7.0	10.0	10.0	5.0	20.4	16.0	605	86.4	5.45	62.5	14.70	1.75
160	160	65	7.5	10.5	10.5	5.5	24.0	18.9	925	116.0	6.21	85.0	18.20	1.89
180	180	70	8.0	11.0	11.0	5.5	28.0	22.0	1350	150.0	6.96	113.0	22.40	2.02
200	200	75	8.5	11.5	11.5	6.0	32.2	25.3	1910	191.0	7.71	148.0	26.90	2.14
220	220	80	9.0	12.5	12.5	6.5	37.4	29.4	2690	245.0	8.48	196.0	33.50	2.30
240	240	85	9.5	13.0	13.0	6.5	42.3	33.2	3600	300.0	9.22	247.0	39.50	2.42
260	260	90	10.0	14.0	14.0	7.0	48.3	37.9	4820	371.0	10.0	317.0	47.80	2.56

280	280	95	10.0	15.0	15.0	7.5	53.4	41.9	6280	448.0	10.80	398.0	57.10	2.74
300	300	100	10.0	16.0	16.0	8.0	58.8	46.1	8030	535.0	11.70	493.0	67.60	2.90
320	320	100	14.0	17.5	17.5	8.5	75.8	59.5	10870	679.0	12.10	597.0	80.60	2.81
350	350	100	14.0	16.0	16.0	8.0	77.3	60.6	12840	734.0	12.90	570.0	75.00	2.72
380	380	102	13.5	16.0	16.0	8.0	80.4	63.1	15760	829.0	14.00	615.0	78.70	2.77
400	400	110	14.0	18.0	18.0	9.0	91.5	71.8	20350	1020.0	14.90	846.0	102.00	3.04

PERFILES LAMINADOS EN CALIENTE “UPL”

UPL	Dimensiones (mm)				Área	Peso	Momento respecto a los ejes						Distancia de los ejes y-y Cm
							EJE-X-X			EJE-Y-Y			
	h	b	s	t			Ix	Sx	Rx	Iy	Sy	Ry	
	mm	mm	mm	mm			cm²	Kg/m	cm⁴	cm³	cm	cm⁴	
80	80	35	4.5	7.0	7.75	6.08	74.4	18.6	3.10	7.8	3.18	1.00	1.05
100	100	40	5.0	8.0	10.50	8.2	155	30.9	3.92	13.5	4.80	1.15	1.20
120	120	45	5.0	8.0	12.2	9.58	266	44.3	4.67	19.8	6.1	1.27	1.31

PERFILES LAMINADOS EN CALIENTE “UPE”

UPE	Dimensiones (mm)						Área	Peso	Momento respecto a los ejes			
									EJE-X-X		EJE-Y-Y	
									Ix	Sx	Iy	Sy
	mm	mm	mm	mm	mm	mm			cm ⁴	cm ³	cm ⁴	cm ³
C 120	120	52	408	7.8	7.5	3.0	13.3	10.4	304	50.6	31.2	8.52
C 140	140	58	4.9	8.1	8.0	3.0	15.6	12.3	491	70.2	45.4	11.00
C 160	160	64	5.0	8.4	8.5	3.5	18.1	14.2	747	93.4	63.3	13.80
C 180	180	70	5.1	8.7	9.0	3.5	20.7	16.3	1090	121.0	86.0	17.00
C 200	200	76	5.2	9.0	9.5	4.0	23.4	18.4	1520	152.0	113.0	20.50

PERFILES LAMINADOS EN CALIENTE “UPAM”

UPAM pulg x lb/pie	Dimensiones (mm)				Área	Peso	Momento respecto a los ejes					
							EJE-X-X			EJE-Y-Y		
	h	b	s	t			Ix	Sx	Rx	Iy	Sy	Ry
	mm	mm	mm	mm			cm ⁴	cm ³	cm	cm ⁴	cm ³	Cm
5 x 6.70	12.7	44.5	4.8	8.13	12.7	10.0	310	48.8	4.94	19.3	5.93	1.23
6 x 8.20	152.4	47.6	4.8	8.71	15.5	12.2	544	71.4	5.9	27.9	7.71	1.34
7 x 8.20	177.8	54.0	4.8	9.3	18.5	14.6	883	99.3	6.9	39.0	9.79	1.45
8x11.50	203.4	57.2	6.4	9.91	21.8	17.1	1350	133	7.8	53.1	12.2	1.56
9x13.40	228.6	60.3	6.4	10.5	25.3	20.0	1970	172	8.8	70.8	15.1	1.67
10x15.30	254.0	66.7	6.4	11.1	28.8	22.8	2780	219	9.8	91.7	18.2	1.78
12x20.73	304.8	76.2	7.9	12.7	39.0	30.9	5320	349	11.7	156	27.1	2.00
15x13.90	381.0	8.57	9.5	16.5	64.0	50.5	13000	683	14.3	376	48.8	2.26

