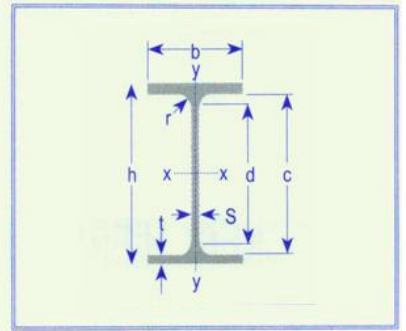


PERFIL I LIVIANO DE ALAS PARALELAS - IPE																		
PERFILES IPE		DIMENSIONES Y PROPIEDADES PARA EL DISEÑO																
DESIGNACION	DIMENSIONES							AREA cm ²	PESO kg/mt	PROPIEDADES ELASTICAS						MODULO PLASTICO		CONS TORS
	ALTURA		ALA		DISTANCIAS					EJE X-X			EJE Y-Y			Zx	Zy	Jt
	h mm	s mm	b mm	t mm	r mm	c mm	d mm			Ix cm ⁴	Sx cm ³	rx cm	Iy cm ⁴	Sy cm ³	ry cm	cm ³	cm ³	cm ⁴
IPE 80	80.00	3.80	46.00	5.20	5.00	69.60	59.60	7.64	6.00	80.10	20.00	3.24	8.50	3.70	1.05	23.20	5.80	0.70
IPE 100	100.00	4.10	55.00	5.70	7.00	88.60	74.60	10.30	8.10	171.00	34.20	4.07	15.90	5.80	1.24	39.40	9.10	1.20
IPE A 120	117.60	3.80	64.00	5.10	7.00	107.40	93.40	11.00	8.66	257.00	43.80	4.83	22.40	7.00	1.42	49.90	11.00	1.04
IPE 120	120.00	4.40	64.00	6.30	7.00	107.40	93.40	13.20	10.40	318.00	53.00	4.90	27.70	8.60	1.45	60.70	13.60	1.74
IPE A 140	137.40	3.80	73.00	5.60	7.00	126.20	112.20	13.40	10.50	435.00	63.30	5.70	36.40	10.00	1.65	71.60	15.50	1.36
IPE 140	140.00	4.70	73.00	6.90	7.00	126.20	112.20	16.40	12.90	541.00	77.30	5.74	44.90	12.30	1.65	88.30	19.20	2.45
IPE R 140	142.00	5.30	72.00	7.80	7.00	126.40	112.40	18.40	14.40	611.00	86.10	5.77	48.80	13.50	1.63	99.10	21.30	3.43
IPE A 160	157.00	4.00	82.00	5.90	9.00	145.20	127.20	16.20	12.70	689.00	87.80	6.53	54.40	13.30	1.83	99.10	20.70	1.96
IPE 160	160.00	5.00	82.00	7.40	9.00	145.20	127.20	20.10	15.80	869.00	109.00	6.58	68.30	16.70	1.84	124.00	26.10	3.60
IPE R 160	162.00	5.60	81.00	8.50	9.00	145.00	127.00	22.60	17.70	989.00	122.00	6.62	75.70	18.70	1.83	140.00	29.40	5.13
IPE A 180	177.00	4.30	91.00	6.50	9.00	164.00	146.00	19.60	15.40	1.063.00	120.00	7.37	81.90	18.00	2.05	135.00	28.00	2.70
IPE 180	180.00	5.30	91.00	8.00	9.00	164.00	146.00	23.90	18.80	1.317.00	146.00	7.42	101.00	22.20	2.05	166.00	34.60	4.79
IPE O 180	182.00	6.00	92.00	9.00	9.00	164.00	146.00	27.10	21.30	1.505.00	165.00	7.45	117.00	25.50	2.08	189.00	39.90	6.76
IPE R 180	183.00	6.40	89.00	9.50	9.00	164.00	146.00	28.10	22.10	1.554.00	170.00	7.44	112.00	25.20	2.00	195.00	39.70	7.78
IPE A 200	197.00	4.50	100.00	7.00	12.00	183.00	159.00	23.50	18.40	1.591.00	162.00	8.23	117.00	23.40	2.23	182.00	36.50	4.11
IPE 200	200.00	5.60	100.00	8.50	12.00	183.00	159.00	28.50	22.40	1.943.00	194.00	8.26	142.00	28.50	2.24	221.00	44.60	6.98
IPE O 200	202.00	6.20	102.00	9.50	12.00	183.00	159.00	32.00	25.10	2.211.00	219.00	8.32	169.00	33.10	2.30	249.00	51.90	9.45
IPE R 200	204.00	6.60	98.00	10.50	12.00	183.00	159.00	33.90	26.60	2.363.00	232.00	8.35	166.00	33.80	2.21	265.00	53.20	11.70
IPE A 220	217.00	5.00	110.00	7.70	12.00	201.60	177.60	28.30	22.20	2.317.00	214.00	9.05	171.00	31.20	2.46	240.00	48.50	5.69
IPE 220	220.00	5.90	110.00	9.20	12.00	201.60	177.60	33.40	26.20	2.772.00	252.00	9.11	205.00	37.30	2.48	285.00	58.10	9.07
IPE O 220	222.00	6.60	112.00	10.20	12.00	201.60	177.60	37.40	29.40	3.134.00	282.00	9.16	240.00	42.80	2.53	321.00	66.90	12.30
IPE R 220	225.00	6.70	108.00	11.80	12.00	201.40	177.40	40.20	31.60	3.474.00	309.00	9.29	249.00	46.10	2.49	352.00	71.80	16.20
IPE A 240	237.00	5.20	120.00	8.30	15.00	220.40	190.40	33.30	26.20	3.290.00	278.00	9.94	240.00	40.00	2.68	312.00	62.40	8.35
IPE 240	240.00	6.20	120.00	9.80	15.00	220.40	190.40	39.10	30.70	3.892.00	324.00	9.97	284.00	47.30	2.69	367.00	73.90	12.90
IPE O 240	242.00	7.00	122.00	10.80	15.00	220.40	190.40	43.70	34.30	4.369.00	361.00	10.00	329.00	53.90	2.74	410.00	84.40	17.20
IPE R 240	245.00	7.50	118.00	12.30	15.00	220.40	190.40	47.50	37.30	4.823.00	394.00	10.10	339.00	57.40	2.67	449.00	90.10	22.70
IPE A 270	267.00	5.50	135.00	8.70	15.00	249.60	219.60	39.10	30.70	4.917.00	368.00	11.20	358.00	53.00	3.02	412.00	82.30	10.30
IPE 270	270.00	6.60	135.00	10.20	15.00	249.60	219.60	45.90	36.10	5.790.00	429.00	11.20	420.00	62.20	3.02	484.00	97.00	15.90
IPE O 270	274.00	7.50	136.00	12.20	15.00	249.60	219.60	53.80	42.30	6.947.00	507.00	11.40	513.00	75.50	3.09	575.00	118.00	24.90
IPE R 270	276.00	7.70	133.00	13.10	15.00	249.80	219.80	56.00	44.00	7.312.00	530.00	11.40	516.00	77.60	3.03	602.00	121.00	28.80
IPE A 300	297.00	6.10	150.00	9.20	15.00	278.60	248.60	46.50	36.50	7.173.00	483.00	12.40	519.00	69.20	3.34	542.00	107.00	13.40
IPE 300	300.00	7.10	150.00	10.70	15.00	278.60	248.60	53.80	42.20	8.356.00	557.00	12.50	604.00	80.50	3.35	628.00	125.00	20.10
IPE O 300	304.00	8.00	152.00	12.70	15.00	278.60	248.60	62.80	49.30	9.994.00	658.00	12.60	746.00	98.10	3.45	744.00	153.00	31.10
IPE R 300	306.00	8.50	147.00	13.70	15.00	278.60	248.60	65.90	51.70	10.500.00	686.00	12.60	728.00	99.00	3.32	780.00	155.00	37.10



PERFIL I LIVIANO DE ALAS PARALELAS - IPE

PERFILES IPE	DIMENSIONES Y PROPIEDADES PARA EL DISEÑO																		
	DIMENSIONES								AREA	PESO	PROPIEDADES ELASTICAS						MODULO PLASTICO		CONS TORS
	ALTURA		ALA		DISTANCIAS						EJE X-X			EJE Y-Y			Zx	Zy	
DESIGNACION	h	s	b	t	r	c	d	cm ²	kg/mt	Ix	Sx	rx	Iy	Sy	ry	cm ³	cm ³	cm ⁴	
IPE A 330	327.00	6.50	160.00	10.00	18.00	307.00	271.00	54.70	43.00	10.230.00	626.00	13.70	685.00	85.60	3.54	702.00	133.00	19.60	
IPE 330	330.00	7.50	160.00	11.50	18.00	307.00	271.00	62.60	49.10	11.770.00	713.00	13.70	788.00	98.50	3.55	804.00	154.00	28.10	
IPE O 330	334.00	8.50	162.00	13.50	18.00	307.00	271.00	72.60	57.00	13.910.00	833.00	13.80	960.00	119.00	3.64	943.00	185.00	42.20	
IPE R 330	336.00	9.20	158.00	14.50	18.00	307.00	271.00	76.80	60.30	14.690.00	874.00	13.80	958.00	121.00	3.53	995.00	190.00	50.80	
IPE A 360	357.60	6.60	170.00	11.50	18.00	334.60	298.60	64.00	50.20	14.520.00	812.00	15.10	944.00	111.00	3.84	907.00	172.00	26.50	
IPE 360	360.00	8.00	170.00	12.70	18.00	334.60	298.60	72.70	57.10	16.270.00	904.00	15.00	1.043.00	123.00	3.79	1.019.00	191.00	37.30	
IPE O 360	364.00	9.20	172.00	14.70	18.00	334.60	298.60	84.10	66.00	19.050.00	1.047.00	15.00	1.251.00	145.00	3.86	1.186.00	227.00	55.80	
IPE R 360	366.00	9.90	168.00	16.00	18.00	334.00	298.00	89.60	70.30	20.290.00	1.109.00	15.00	1.270.00	151.00	3.76	1.262.00	236.00	68.80	
IPE A 400	397.00	7.00	180.00	12.00	21.00	373.00	331.00	73.10	57.40	20.290.00	1.022.00	16.70	1.171.00	130.00	4.00	1.144.00	202.00	34.80	
IPE 400	400.00	8.60	180.00	13.50	21.00	373.00	331.00	84.50	66.30	23.130.00	1.156.00	16.50	1.318.00	146.00	3.95	1.307.00	229.00	51.10	
IPE O 400	404.00	9.70	182.00	15.50	21.00	373.00	331.00	96.40	75.70	26.750.00	1.324.00	16.70	1.564.00	172.00	4.03	1.502.00	269.00	73.10	
IPE R 400	407.00	10.60	178.00	17.00	21.00	373.00	331.00	104.00	81.50	28.860.00	1.418.00	16.70	1.606.00	180.00	3.93	1.618.00	284.00	92.40	
IPE V 400	408.00	10.60	182.00	17.50	21.00	373.00	331.00	107.00	84.00	30.140.00	1.477.00	16.80	1.766.00	194.00	4.06	1.681.00	304.00	99.00	
IPE A 450	447.00	7.60	190.00	13.10	21.00	420.80	378.80	85.50	67.20	29.760.00	1.331.00	18.70	1.502.00	158.00	4.19	1.494.00	246.00	45.70	
IPE 450	450.00	9.40	190.00	14.60	21.00	420.80	378.80	98.80	77.60	33.740.00	1.500.00	18.50	1.676.00	176.00	4.12	1.702.00	276.00	66.90	
IPE O 450	456.00	11.00	192.00	17.60	21.00	420.80	378.80	118.00	92.40	40.920.00	1.795.00	18.60	2.085.00	217.00	4.21	2.046.00	341.00	109.00	
IPE R 450	458.00	11.30	188.00	18.60	21.00	420.80	378.80	121.00	95.20	42.400.00	1.851.00	18.70	2.070.00	220.00	4.13	2.115.00	346.00	122.00	
IPE V 450	460.00	12.40	194.00	19.60	21.00	420.80	378.80	132.00	104.00	46.200.00	2.009.00	18.70	2.397.00	247.00	4.26	2.301.00	389.00	150.00	
IPE A 500	497.00	8.40	200.00	14.50	21.00	468.00	426.00	101.00	79.40	42.930.00	1.728.00	20.60	1.939.00	194.00	4.38	1.946.00	302.00	62.80	
IPE 500	500.00	10.20	200.00	16.00	21.00	468.00	426.00	116.00	90.70	48.200.00	1.928.00	20.40	2.142.00	214.00	4.31	2.194.00	336.00	89.30	
IPE O 500	506.00	12.00	202.00	19.00	21.00	468.00	426.00	137.00	107.00	57.780.00	2.284.00	20.60	2.622.00	260.00	4.38	2.613.00	409.00	143.00	
IPE R 500	508.00	12.60	198.00	20.00	21.00	468.00	426.00	142.00	111.00	59.930.00	2.360.00	20.50	2.600.00	263.00	4.28	2.709.00	415.00	163.00	
IPE V 500	514.00	14.20	204.00	23.00	21.00	468.00	426.00	164.00	129.00	70.720.00	2.752.00	20.80	3.271.00	321.00	4.47	3.168.00	507.00	243.00	
IPE A 550	547.00	9.00	210.00	15.70	24.00	515.60	467.60	117.00	92.10	59.980.00	2.193.00	22.60	2.432.00	232.00	4.55	2.475.00	362.00	86.50	
IPE 550	550.00	11.10	210.00	17.20	24.00	515.60	467.60	134.00	106.00	67.120.00	2.441.00	22.30	2.668.00	254.00	4.45	2.787.00	401.00	123.00	
IPE O 550	556.00	12.70	212.00	20.20	24.00	515.60	467.60	156.00	123.00	79.160.00	2.847.00	22.50	3.224.00	304.00	4.55	3.263.00	481.00	188.00	
IPE R 550	560.00	14.00	210.00	22.20	24.00	515.60	467.60	170.00	134.00	86.600.00	3.093.00	22.50	3.447.00	328.00	4.50	3.562.00	521.00	243.00	
IPE V 550	566.00	17.10	216.00	25.20	24.00	515.60	467.60	202.00	159.00	102.300.00	3.616.00	22.50	4.265.00	395.00	4.60	4.205.00	632.00	380.00	
IPE A 600	597.00	9.80	220.00	17.50	24.00	562.00	514.00	137.00	108.00	82.920.00	2.778.00	24.60	3.116.00	283.00	4.77	3.141.00	442.00	119.00	
IPE 600	600.00	12.00	220.00	19.00	24.00	562.00	514.00	156.00	122.00	92.080.00	3.069.00	24.30	3.387.00	308.00	4.66	3.512.00	486.00	165.00	
IPE O 600	610.00	15.00	224.00	24.00	24.00	562.00	514.00	197.00	154.00	118.300.00	3.879.00	24.50	4.521.00	404.00	4.79	4.471.00	640.00	318.00	
IPE R 600	608.00	14.00	218.00	23.00	24.00	562.00	514.00	184.00	144.00	110.300.00	3.628.00	24.50	3.993.00	366.00	4.66	4.175.00	580.00	271.00	
IPE V 600	618.00	18.00	228.00	28.00	24.00	562.00	514.00	234.00	184.00	141.600.00	4.582.00	24.60	5.570.00	489.00	4.88	5.324.00	780.00	512.00	
IPE 750 X 137	753.00	11.50	263.00	17.00	17.00	719.00	685.00	175.00	137.00	159.900.00	4.246.00	30.30	5.166.00	393.00	5.44	4.865.00	614.00	137.00	
IPE 750 X 147	753.00	13.20	265.00	17.00	17.00	719.00	685.00	187.00	147.00	166.100.00	4.411.00	29.80	5.289.00	399.00	5.31	5.110.00	631.00	162.00	
IPE 750 X 161	758.00	13.80	266.00	19.30	17.00	719.40	685.40	204.00	161.00	186.100.00	4.909.00	30.20	6.073.00	457.00	5.45	5.666.00	720.00	212.00	
IPE 750 X 173	762.00	14.40	267.00	21.60	17.00	718.80	684.80	221.00	173.00	205.800.00	5.402.00	30.50	6.873.00	515.00	5.57	6.218.00	810.00	274.00	
IPE 750 X 185	766.00	14.90	267.00	23.60	17.00	718.80	684.80	236.00	185.00	223.000.00	5.821.00	30.80	7.510.00	563.00	5.65	6.691.00	884.00	337.00	
IPE 750 X 196	770.00	15.60	268.00	25.40	17.00	719.20	685.20	251.00	196.00	240.300.00	6.241.00	31.00	8.175.00	610.00	5.71	7.174.00	959.00	409.00	
IPE 750 X 210	775.00	16.00	268.00	28.00	17.00	719.00	685.00	268.00	210.00	262.200.00	6.765.00	31.30	9.011.00	672.00	5.80	7.762.00	1.054.00	514.00	
IPE 750 X 222	778.00	17.00	269.00	29.50	17.00	719.00	685.00	283.00	222.00	278.200.00	7.152.00	31.30	9.604.00	714.00	5.82	8.225.00	1.122.00	605.00	