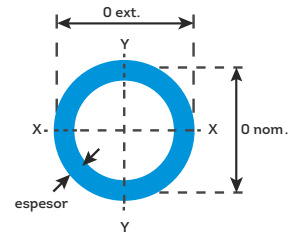


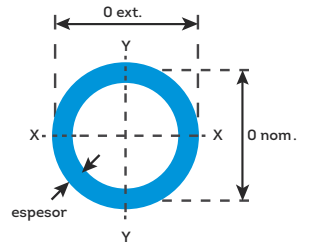
TUBERÍA DE ACERO CARBÓN PARA CONDUCCIÓN.



CALIDADES	COMPOSICIÓN QUÍMICA					CARACTERÍSTICAS MECÁNICAS			
	C	Mn	Si	P	S	LÍMITE	ELÁSTICAS	RESISTENCIA A LA TRACCIÓN	
API - 5L X 42	0.29	1.35	-	0.04	0.05	42.000 PSI	289 MPA	60.000 PSI	413 MPA
ASTM - A 53 GRA	0.25	0.90	-	0.05	0.06	30.000 PSI	207 MPA	48.000 PSI	331 MPA
ASTM - A 53 GR B	0.30	1.20	-	0.05	0.06	35.000 PSI	241 MPA	60.000 PSI	413 MPA
ASTM - A 106 GR B	0.30	0.29/106	0.1	0.048	0.058	35.000 PSI	241 MPA	60.000 PSI	413 MPA

NOMINAL	DIÁMETRO EXTERIOR		ESPESOR PARED		PESO NOMINAL		WEIGHT CLASS	SCHEDULE
	Pulg.	mm	Pulg.	mm.	L/P	Kg/m		
1/4"	0.540	13.70	0.088	2.24	0.42	0.63	STD	40
1/4"	0.540	13.70	0.019	3.02	0.54	0.80	XS	80
3/8"	0.675	17.20	0.091	2.31	0.57	0.84	STD	40
3/8"	0.675	17.20	0.126	3.20	0.74	1.10	XS	80
1/2"	0.840	21.30	0.109	2.77	0.85	1.27	STD	40
1/2"	0.840	21.30	0.147	3.73	1.09	1.62	XS	80
3/4"	1.050	26.70	0.113	2.87	1.13	1.69	STD	40
3/4"	1.050	26.70	0.154	3.91	1.47	2.20	XS	80
1"	1.315	33.40	0.133	3.38	1.68	2.50	STD	40
1"	1.315	33.40	0.179	4.55	2.17	3.24	XS	80
1 1/4"	1.660	42.20	0.140	3.56	2.27	3.39	STD	40
1 1/4"	1.660	42.20	0.191	4.85	3.00	4.47	XS	80
1 1/2"	1.900	48.30	0.145	3.68	2.72	4.05	STD	40
1 1/2"	1.900	48.30	0.200	5.08	3.63	5.41	XS	80
2"	2.375	60.30	0.154	3.91	3.65	5.44	STD	40
2"	2.375	60.30	0.128	5.54	5.02	7.48	XS	80
2"	2.375	60.30	0.344	8.74	7.46	11.11		160
2 1/2"	2.875	73.00	0.203	5.16	5.79	8.63	STD	40

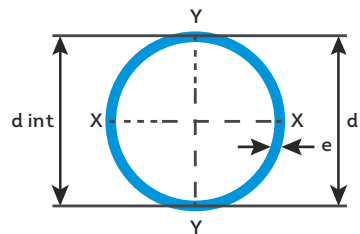
TUBERÍA DE ACERO CARBÓN PARA CONDUCCIÓN.



CALIDADES	COMPOSICIÓN QUÍMICA					CARACTERÍSTICAS MECÁNICAS			
	C	Mn	Si	P	S	LÍMITE ELÁSTICAS	RESISTENCIA A LA TRACCIÓN		
API - 5L X 42	0.29	1.35	-	0.04	0.05	42.000 PSI	289 MPA	60.000 PSI	413 MPA
ASTM - A 53 GR A	0.25	0.90	-	0.05	0.06	30.000 PSI	207 MPA	48.000 PSI	331 MPA
ASTM - A 53 GR B	0.30	1.20	-	0.05	0.06	35.000 PSI	241 MPA	60.000 PSI	413 MPA
ASTM - A 106 GR B	0.30	0.29/106	0.1	0.048	0.058	35.000 PSI	241 MPA	60.000 PSI	413 MPA

DIÁMETRO			ESPESOR PARED		PESO NOMINAL		WEIGHT CLASS	SCHEDULE
NOMINAL	EXTERIOR		Pulg.	mm.	L/P	Kg/m		
Pulg.	Pulg.	mm	Pulg.	mm.	L/P	Kg/m		
2 1/2"	2.875	73.00	0.276	7.01	7.66	11.41	XS	80
2 1/2"	2.875	73.00	0.375	9.53	10.01	14.92		160
3"	3.500	88.90	0.216	5.49	7.58	11.29	STD	40
3"	3.500	88.90	0.300	7.62	10.25	15.27	XS	80
3"	3.500	88.90	0.438	11.13	14.32	21.35		160
4"	4.500	114.30	0.237	6.02	10.79	16.07	STD	40
4"	4.500	114.30	0.337	8.56	14.98	22.32	XS	80
4"	4.500	114.30	0.531	13.49	22.51	33.54		160
5"	5.563	141.30	0.258	6.55	14.62	21.77	STD	40
5"	5.563	141.30	0.375	9.53	20.78	30.97	XS	80
5"	5.563	141.30	0.625	15.88	32.96	49.11		160
6"	6.625	168.30	0.280	7.11	18.97	28.26	STD	40
6"	6.625	168.30	0.432	10.97	28.57	42.56	XS	80
6"	6.625	168.30	0.719	18.26	45.35	67.56		160
8"	8.625	219.10	0.322	8.18	28.55	42.55	STD	40
8"	8.625	219.10	0.500	12.70	43.39	64.64	XS	80
8"	8.625	219.10	0.906	23.01	74.69	111.27		160
10"	10.750	273.10	0.365	9.27	40.48	60.31	STD	40
10"	10.750	273.10	0.594	15.09	64.43	96.01	XS	80
12"	12.750	323.90	0.406	10.31	53.52	79.70	STD	40
14"	14.875	377.90	0.440	11.13	63.51	94.49	STD	40
16"	17.000	431.80	0.500	12.70	82.86	123.29	STD	40
18"	19.125	485.80	0.506	14.27	104.78	155.91	STD	40
20"	21.185	538.20	0.590	15.08	123.03	183.05	STD	40
24"	25.375	644.50	0.690	17.48	171.49	255.14	STD	40

TUBERÍA DE ACERO ESTRUCTURAL REDONDA.



REFERENCIA DIÁMETRO NOMINAL	REFERENCIA DIÁMETRO REAL				Peso teórico calculado	Área A	FLEXIÓN			MÓDULO PLÁSTICO	MOMENTO DE INERCIA TORCIONAL	CONSTANTE DE CORTE TORCIONAL	UNIDAD DE EMPAQUE
		Diámetro Exterior	Diámetro Interior	Espesor			I	S	r	Z			
Tubería Circular		d [mm]	d int [mm]	t [mm]	[kg / m]	[mm ²]	[mm ⁴]	[mm ³]	[mm]	[mm ³]	J [mm ⁴]	C [mm ³]	
1-1/2"	1.89"	48.0	45.0	1.50	10.32	204.25	55503.5	2312.6	16.48	3030.9	111007.0	4759.48	91
1-1/2"	1.89"	48.0	44.0	2.00	13.61	269.61	71863.9	2994.3	16.33	3961.9	143727.8	6219.97	
1-1/2"	1.89"	48.0	42.0	3.00	19.98	396.27	101629.2	4234.5	16.01	5709.8	203258.4	8957.63	61
2"	2.36"	60.0	56.0	2.00	17.16	339.73	143695.2	4789.8	20.57	6289.4	287390.3	9876.04	
2"	2.36"	60.0	55.0	2.50	21.27	421.27	175449.0	5848.3	20.41	7738.1	350898.0	12148.37	37
2-1/2"	2.87"	73.0	69.0	2.00	21.01	415.70	263154.7	7209.7	25.16	9415.4	526309.5	14786.34	
2-1/2"	2.87"	73.0	68.0	2.50	26.08	516.22	322663.6	8840.1	25.00	11617.5	645327.3	18242.08	37
3"	3-1/2"	89.0	85.0	2.00	25.75	509.19	483529.9	10865.8	30.82	14125.8	967059.8	22185.43	
3"	3-1/2"	89.0	84.0	2.50	32.00	633.09	594944.9	13369.5	30.66	17470.9	1189889.9	27436.62	37
3"	3-1/2"	89.0	83.0	3.00	38.18	755.63	702735.1	15791.8	30.50	20743.0	1405470.2	32571.62	
3"	3-1/2"	89.0	81.0	4.00	50.31	996.64	907757.8	20399.1	30.18	27071.5	1815515.6	42496.90	19
4"	4-1/2"	114.3	109.3	2.50	41.36	817.89	1282428.8	22439.7	39.60	29156.0	2564857.5	45791.51	
4"	4-1/2"	114.3	108.3	3.00	49.41	977.39	1520118.1	26598.7	39.44	34699.4	3040236.2	54494.38	19
4"	4-1/2"	114.3	106.3	4.00	65.28	1292.32	1977533.3	34602.5	39.12	45505.1	3955066.5	71452.26	
4"	4-1/2"	114.3	102.3	6.00	96.15	1905.87	2823351.4	49402.5	38.49	66013.7	5646702.8	103603.15	2
---	6"	152.4	144.4	4.00	87.83	1737.58	4804323.8	63048.9	52.58	82250.5	9608647.6	129171.86	
---	6"	152.4	140.4	6.00	129.98	2573.77	6945069.6	91142.6	51.95	120341.0	13890139.2	188940.26	
---	6"	152.4	136.4	8.00	170.93	3388.22	8923184.6	117102.2	51.32	156477.0	17846369.2	245577.84	2
8"	8-5/8"	219.1	209.1	5.00	158.38	3132.41	18011226.4	164429.8	75.83	21381.6	36022452.9	335833.23	
8"	8-5/8"	219.1	207.1	6.00	189.17	3742.59	21338003.5	194800.9	75.51	254395.0	42676006.9	399511.69	2
8"	8-5/8"	219.1	203.1	8.00	249.86	4946.64	27728839.7	253144.7	74.87	333370.2	55457679.3	523441.07	
8"	8-5/8"	219.1	199.1	10.00	309.37	6128.96	33779775.8	308385.5	74.24	409519.7	67559551.6	642850.94	2
10"	10-3/4"	273.1	259.1	7.00	275.57	5451.21	48438094.5	354792.9	94.26	462585.6	96876188.9	726483.33	
10"	10-3/4"	273.1	255.1	9.00	351.64	6959.80	61007440.9	446859.1	93.63	586560.0	122014881.8	921059.29	2
10"	10-3/4"	273.1	249.1	12.00 *	463.53	9181.91	78862174.0	577639.1	92.68	765887.2	157724347.9	1202325.07	
12"	12-3/4"	323.9	307.9	8.00	373.89	7395.59	92602663.4	571886.1	111.90	744995.0	185205326.8	1170019.81	2
12"	12-3/4"	323.9	303.9	10.00	464.40	9190.15	113760469.6	702550.4	111.26	920426.0	227520939.1	1445380.54	
12"	12-3/4"	323.9	299.9	12.00 *	553.73	10962.97	134158720.9	828523.8	110.62	1091632.7	268317441.8	1714004.89	

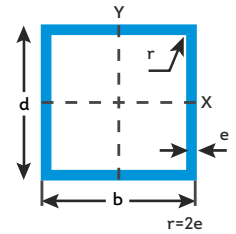
Metaltub Acesco, cumplen con norma ASTM A500 Grado C. Resistencia a la fluencia mín 315 Mpa (46.000 psi)

* Tubos suministrados en bajo norma ASTM A500 Grado A. Resistencia a la fluencia mín 230 Mpa (33.000 psi)

LARGO DE TUBOS MÁS COMERCIALES



TUBERÍA DE ACERO ESTRUCTURAL CUADRADA.

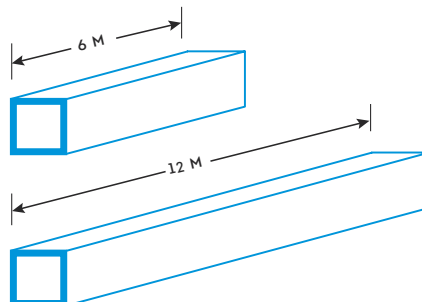


REFERENCIA	REAL		ESPESOR PARED	PESO TEÓRICO CALCULADO	ÁREA A	FLEXIÓN			MÓDULO PLÁSTICO	MOMENTO DE INERCIA TORCIONAL	CONSTANTE DE CORTE TORCIONAL	UNIDAD DE EMPAQUE
	d [mm]	b [mm]				I _x	S _x	r _x	Z _x			
Tubería Cuadrada												
50 x 50	50	50	1,50	2,24	281,3	101366,5	4054,7	19,66	4723,7	160183,2	6580,74	100
50 x 50	50	50	2,00	2,93	366,8	128768,8	5150,8	19,39	6076,1	207506,3	8596,09	
50 x 50	50	50	2,50	3,60	448,2	153122,5	6124,9	19,12	7319,6	251938,8	10520,46	
60 x 60	60	60	2,00	3,56	446,8	229847,7	7661,6	23,48	8962,6	365542,6	12549,71	100
60 x 60	60	60	2,50	4,39	548,2	275865,8	9195,5	23,22	10870,7	446052,3	15419,24	
60 x 60	60	60	3,00	5,19	645,4	317514,9	10583,8	22,95	12648,2	522420,3	18179,36	
70 x 70	70	70	2,00	4,19	526,8	373395,6	10668,4	27,57	12407,1	588463,2	17247,32	64
70 x 70	70	70	2,50	5,17	648,2	451016,8	12886,2	27,31	15119,3	720622,4	21248,01	
70 x 70	70	70	3,00	6,13	765,4	522589,2	14931,1	27,04	17678,1	847043,8	25122,00	
90 x 90	90	90	2,50	6,74	848,2	995742,5	22127,6	35,49	25708,9	1566932,5	35695,56	36
90 x 90	90	90	3,00	8,01	1005,4	1163603,9	25857,9	35,22	30248,9	1850559,5	42355,27	
100 x 100	100	100	2,50	7,53	948,2	1383917,1	27678,3	39,57	32050,0	2166572,5	44314,34	
100 x 100	100	100	3,00	8,96	1125,4	1621864,1	32437,3	39,31	37789,7	2562931,7	52645,90	25
100 x 100	100	100	4,00	11,73	1467,3	2060301,2	41206,0	38,78	48609,0	3320100,2	68768,74	
100 x 100	100	100	6,00	16,98	2101,5	2792252,3	55845,0	37,69	67643,0	4697060,9	98821,79	
120 x 120	120	120	4,00	14,25	1787,3	3677562,9	61292,7	46,97	71701,0	5848682,0	100397,67	9
135 x 135	135	135	4,00	16,13	2027,3	5329923,9	78961,8	53,10	91949,5	8416637,9	128025,37	9
135 x 135	135	135	6,00	23,58	2941,5	7438252,5	110196,3	52,04	130737,4	12095905,5	186253,69	4
150 x 150	150	150	4,00	18,01	2267,3	7414726,0	98863,0	59,23	114709,0	11643882,0	159001,06	
150 x 150	150	150	6,00	26,40	3301,5	10430274,8	139070,3	58,18	164055,4	16808007,0	232094,51	
150 x 150	150	150	9,00	38,21	4728,3	14135777,2	188477,0	56,53	228295,0	23778870,6	333523,54	2
200 x 200	200	200	5,00	30,11	3792,7	22142673,8	221426,7	79,14	256400,3	34665159,2	354514,70	
200 x 200	200	200	7,00	41,43	5193,7	29556279,9	295562,8	78,10	346471,6	47158128,6	486381,97	
200 x 200	200	200	9,00	52,34	6528,3	36178243,1	361782,4	77,03	429529,2	58900089,8	612462,16	2
200 x 200	200	200	12,00 *	67,93	8405,9	44676036,6	446760,4	75,38	541143,8	75152973,7	790574,31	
250 x 250	250	250	9,00	66,47	8328,3	73861649,3	590893,2	97,49	693538,3	118080455,5	975100,78	
250 x 250	250	250	12,00 *	86,77	10805,9	92807158,8	742457,3	95,88	884943,4	152049635,1	1267865,19	2
300 x 300	300	300	10,00	89,04	11170,8	143654801,0	957698,7	117,41	1120327,8	228464140,8	1568713,62	2
300 x 300	300	300	12,00 *	105,61	13205,9	166884396,8	1112562,6	116,35	1312443,0	268928112,4	1856756,07	

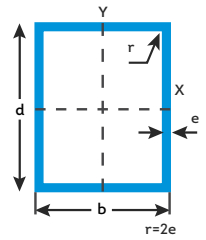
Metaltub Acesco, cumplen con norma ASTM A500 Grado C. Resistencia a la fluencia mín 345 Mpa (50.000 psi)

* Tubos suministrados en bajo norma ASTM A500 Grado A. Resistencia a la fluencia mín 270 Mpa (39.000 psi)

LARGO DE TUBOS MÁS COMERCIALES



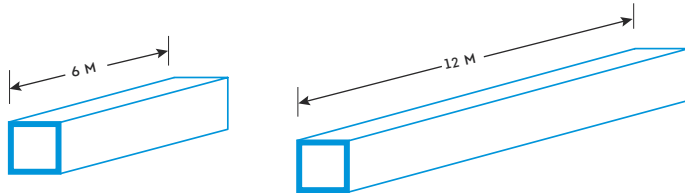
TUBERÍA DE ACERO ESTRUCTURAL RECTANGULAR.



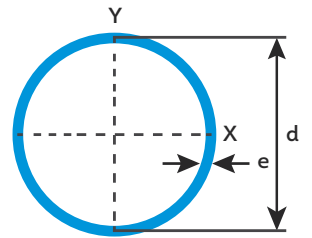
REFERENCIA	REAL		ESPESOR PARED	PESO TEÓRICO CALCULADO	ÁREA A	EJE X-X			EJE Y-Y			MÓDULO PLÁSTICO		MOMENTO DE INERCIA TORCIONAL	CONSTANTE DE CORTE TORCIONAL	UNIDAD DE EMPAQUE
	d [mm]	b [mm]				I _x	S _x	r _x	I _y	S _y	r _y	Z _y	Z _x			
Tubería Rectangular	d [mm]	b [mm]	e [mm]	[kg / m]	[mm ²]	[mm ⁴]	[mm ³]	[mm]	[mm ⁴]	[mm ³]	[mm]	[mm ³]	[mm ³]	J [mm ⁴]	C [mm ³]	
60 x 40	60	40	1,50	13,43	281,3	131434,7	4381,2	22,38	70855,6	3542,8	16,43	4020,2	5287,7	146909,4	6301,74	100
60 x 40	60	40	2,00	17,60	366,8	166953,4	5565,1	22,08	89797,1	4489,9	16,19	5166,4	6799,8	189984,6	8224,09	
76 x 38	76	38	1,50	15,41	323,3	226016,4	5947,8	27,38	78036,5	4107,2	16,09	4577,7	7357,0	187101,4	7608,77	
76 x 38	76	38	2,00	20,24	422,8	288708,9	7597,6	27,05	99256,1	5224,0	15,86	5903,3	9501,4	242174,1	9942,58	72
76 x 38	76	38	2,50	24,91	518,2	345270,3	9086,1	26,71	118216,0	6221,9	15,63	7130,9	11494,0	293766,6	12173,31	
76 x 38	76	38	3,00	29,43	609,4	395817,1	10416,2	26,36	134999,3	7105,2	15,40	8261,7	13336,1	341977,6	14299,81	
90 x 50	90	50	2,00	25,14	526,8	528621,3	11747,1	32,80	215021,2	8600,8	20,92	9657,7	14412,5	491438,4	15759,32	60
90 x 50	90	50	2,50	31,03	648,2	638217,6	14182,6	32,49	258896,4	10355,9	20,69	11753,4	17555,2	600243,7	19388,01	
90 x 50	90	50	3,00	36,78	765,4	739067,5	16423,7	32,16	299026,7	11961,1	20,46	13724,0	20516,2	703673,0	22890,00	
100 x 50	100	50	2,00	27,02	566,8	685336,8	13706,7	36,01	236584,3	9463,4	21,16	10553,1	16961,6	567626,0	17550,13	50
100 x 50	100	50	2,50	33,39	698,2	829276,3	16585,5	35,68	285339,9	11413,6	20,93	12861,8	20695,3	693723,1	21604,90	
100 x 50	100	50	3,00	39,60	825,4	962560,7	19251,2	35,35	330154,4	13206,2	20,70	15041,2	24228,9	813760,8	25524,31	
120 x 60	120	60	2,50	40,45	848,2	1472407,6	24540,1	43,15	508008,2	16933,6	25,35	18916,3	30409,1	1221492,5	31510,56	50
120 x 60	120	60	3,00	48,08	1005,4	1719587,3	28659,8	42,82	591680,8	19722,7	25,12	22225,2	35761,5	1438504,2	37333,27	
150 x 100	150	100	4,00	89,24	1867,3	5424298,0	72324,0	55,81	2922825,2	58456,5	40,97	66517,1	87500,9	6084092,6	104584,90	
150 x 100	150	100	6,00	130,15	2701,5	7519256,4	100256,8	54,58	4037361,7	80747,2	40,00	93986,2	123762,2	8688400,0	151508,15	12
200 x 70	200	70	4,00	96,78	2027,3	8815389,5	88153,9	68,29	1711431,2	48898,0	30,09	54394,0	113787,9	4795804,5	96591,37	
200 x 70	200	70	6,00	141,46	2941,5	12236315,1	122363,2	66,74	2340879,0	66882,3	29,19	76613,8	161285,5	6763260,6	139102,69	
200 x 100	200	100	4,00	108,08	2267,3	10965388,6	109653,9	72,03	3785349,1	75707,0	42,32	84425,2	135692,7	9082015,7	140401,06	6
200 x 100	200	100	6,00	158,41	3301,5	15400971,5	154009,7	70,69	5282471,0	105649,4	41,40	120329,3	193831,4	13020172,2	204194,51	
250 x 100	250	100	5,00	157,11	3292,7	23271620,8	186173,0	87,06	5623177,3	112463,5	42,80	125063,3	236503,0	14939096,6	217176,95	
250 x 150	250	150	5,00	180,66	3792,7	30270316,0	242162,5	92,54	13892040,5	185227,2	62,69	207628,7	293546,8	30272043,2	331264,70	6
300 x 100	300	100	5,00	180,66	3792,7	37112467,2	247416,4	102,46	6680916,3	133618,3	43,47	147232,2	319068,4	18877952,2	261514,70	
300 x 100	300	100	7,00	248,59	5193,7	49360524,2	329070,2	100,93	8787786,2	175755,7	42,59	197602,1	430241,1	25330245,6	356181,97	
300 x 100	300	100	9,00	314,03	6528,3	60166226,1	401108,2	99,34	10596296,9	211925,9	41,69	243224,5	532133,9	31189019,9	445062,16	4
300 x 150	300	150	8,00	319,30	6669,3	70865345,0	472435,6	106,72	24357558,3	324767,4	62,56	367269,1	591174,7	59486600,9	619014,59	
300 x 150	300	150	10,00	392,93	8170,8	84691415,3	564609,4	105,35	28989513,0	386526,8	61,64	443417,7	714801,3	72129191,1	757660,62	
300 x 150	300	150	12,00 *	464,08	9605,9	97019955,9	646799,7	103,95	33080247,2	441070,0	60,70	513462,3	828924,8	83930368,8	889719,75	2

Metaltub Acesco, cumplen con norma ASTM A500 Grado C. Resistencia a la fluencia mín 345 Mpa (50.000 psi)
 * Tubos suministrados en bajo norma ASTM A500 Grado A. Resistencia a la fluencia mín 270 Mpa (39.000 psi)

LARGO DE TUBOS MÁS COMERCIALES



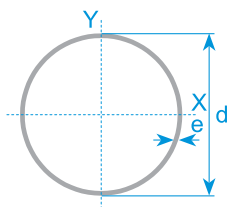
TUBERÍA DE ACERO NEGRA Y GALVANIZADA - CERRAMIENTO.



CARACTERÍSTICAS Y DENOMINACIÓN		ESPESOR DE PARED (pulg.)	ESPESOR DE PARED (mm.)	PESO DEL TUBO NEGRO DE 6 MTS (Kg.)	PESO DEL TUBO GALVANIZADO DE 6 M (Kg.)	UNIDAD DE EMPAQUE
DIÁMETRO NOMINAL NPS (pulg.)	DIÁMETRO EXTERIOR (pulg.)					
1/2	0.806	0.047	1.20	3.403	3.595	37
	0.806	0.059	1.50	4.205	4.390	37
	0.815	0.075	1.90	5.295	5.474	37
	0.815	0.090	2.29	6.225	6.396	37
	0.815	0.098	2.49	6.703	6.871	37
3/4	1.017	0.047	1.20	4.349	4.598	37
	1.017	0.059	1.50	5.392	5.635	37
	1.028	0.075	1.90	6.819	7.056	37
	1.028	0.090	2.29	8.054	8.283	37
	1.028	0.098	2.49	8.695	8.919	37
1	1.028	0.105	2.67	9.246	9.467	37
	1.296	0.047	1.20	5.600	5.295	37
	1.296	0.059	1.50	6.963	7.281	37
	1.296	0.075	1.90	8.736	9.046	37
	1.290	0.090	2.29	10.303	10.603	37
1 1/4	1.296	0.098	2.49	11.200	11.497	37
	1.315	0.105	2.67	12.121	12.419	37
	1.315	0.116	2.95	13.269	13.561	37
	1.315	0.128	3.25	14.495	14.781	37
	1.663	0.047	1.20	7.245	7.669	19
1 1/2	1.663	0.059	1.50	9.208	9.445	19
	1.663	0.075	1.90	11.362	11.771	19
	1.638	0.090	2.29	13.291	13.685	19
	1.641	0.098	2.49	14.426	14.816	19
	1.663	0.105	2.67	15.606	15.999	19
2	1.663	0.116	2.95	17.120	17.506	19
	1.663	0.128	3.25	18.744	19.124	19
	1.900	0.047	1.20	8.308	8.796	19
	1.900	0.059	1.50	10.362	10.843	19
	1.900	0.075	1.90	13.058	13.530	19
2 1/2	1.885	0.090	2.29	15.412	15.872	19
	1.883	0.098	2.49	16.688	17.144	19
	1.885	0.105	2.67	17.830	18.282	19
	1.885	0.116	2.95	19.576	20.023	19
	1.885	0.128	3.25	21.455	21.895	19
3	2.360	0.047	1.20	10.371	10.983	19
	2.360	0.059	1.50	12.951	13.557	19
	2.360	0.075	1.90	16.349	16.946	19
	2.360	0.090	2.29	19.490	20.079	19
	2.360	0.098	2.49	21.148	21.732	19
3 1/2	2.360	0.105	2.67	22.588	23.169	19
	2.360	0.116	2.95	21.833	25.408	19
	2.360	0.128	3.25	27.255	27.823	19
	2.850	0.090	2.29	23.697	24.818	7
	2.850	0.098	2.49	25.729	26.446	7
4	2.850	0.105	2.67	27.497	28.209	7
	2.850	0.116	2.95	30.255	30.962	7
	2.850	0.128	3.25	33.239	33.939	7
	3.474	0.090	2.29	29.055	29.944	7
	3.474	0.098	2.49	31.563	32.448	7
4 1/2	3.474	0.105	2.67	33.747	34.629	7
	3.474	0.116	2.95	37.161	38.036	7
	3.474	0.128	3.25	40.859	41.728	7
	4.468	0.090	2.29	37.590	38.747	7
	4.468	0.098	2.49	40.856	42.009	7
5	4.468	0.105	2.67	43.704	44.854	7
	4.468	0.116	2.95	48.161	49.305	7
	4.468	0.128	3.25	52.997	54.134	7

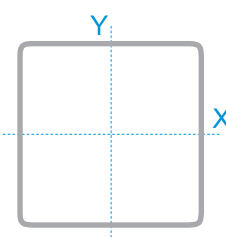
TUBERÍA DE ACERO PARA FABRICACIÓN DE MUEBLES - REDONDOS.

DIMENSIÓN NOMINAL NPS	DIMENSIÓN EXTERIOR		ESPESOR DE PARED			PESO TUBO 6 m (Kg)
	(mm)	(pulg.)	(mm)	(pulg.)	Calibre	
1/2"	12.70	0.500	0.70	0.028	23	1.260
			0.80	0.031	22	1.387
			0.90	0.035	20	1.553
			1.10	0.043	19	1.875
			1.20	0.047	18	2.031
			1.50	0.059	16	2.482
5/8"	15.88	0.625	0.70	0.028	23	1.594
			0.80	0.031	22	1.756
			0.90	0.035	20	1.969
			1.10	0.043	19	2.388
			1.20	0.047	18	2.590
			1.50	0.059	16	3.186
3/4"	19.05	0.750	0.70	0.028	23	1.928
			0.80	0.031	22	2.126
			0.90	0.035	20	2.387
			1.10	0.043	19	2.900
			1.20	0.047	18	3.152
			1.50	0.059	16	3.889
7/8"	22.23	0.875	0.70	0.028	23	2.262
			0.80	0.031	22	2.496
			0.90	0.035	20	2.805
			1.10	0.043	19	3.413
			1.20	0.047	18	3.713
			1.50	0.059	16	4.593
1"	25.40	1.000	1.90	0.075	14	5.724
			0.70	0.028	23	2.596
			0.80	0.031	22	2.866
			0.90	0.035	20	3.222
			1.10	0.043	19	3.926
			1.20	0.047	18	4.273
1 1/8"	28.58	1.125	1.50	0.059	16	5.297
			0.90	0.035	20	6.618
			1.10	0.043	19	8.439
			1.20	0.047	18	8.834
			1.50	0.059	16	10.000
			1.90	0.075	14	12.513
1 1/4"	31.75	1.250	0.80	0.031	22	3.601
			0.90	0.035	20	4.057
			1.10	0.043	19	4.951
			1.20	0.047	18	5.394
			1.50	0.059	16	6.704
			1.90	0.075	14	8.407
1 1/2"	38.10	1.500	0.80	0.031	22	4.344
			0.90	0.035	20	4.892
			1.10	0.043	19	5.977
			1.20	0.047	18	6.515
			1.50	0.059	16	8.111
			1.90	0.075	14	10.196
1.663"	42.24	1.663	0.90	0.035	20	5.436
			1.10	0.043	19	6.646
			1.20	0.047	18	7.246
			1.50	0.059	16	9.028
			1.90	0.075	14	11.362
			0.80	0.031	22	5.528
1.900"	48.26	1.900	0.90	0.035	20	6.227
			1.10	0.043	19	7.618
			1.20	0.047	18	8.308
			1.50	0.059	16	10.362
			1.90	0.075	14	13.058
			1.10	0.043	19	9.504
2.360"	59.94	2.360	1.20	0.047	18	10.371
			1.50	0.059	16	12.951
			1.90	0.075	14	16.349
2.500"	63.50	2.500	1.50	0.059	16	13.739
			1.90	0.075	14	17.351



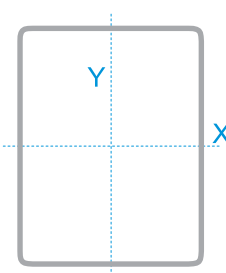
TUBOS REDONDOS

TUBERÍA DE ACERO PARA FABRICACIÓN DE MUEBLES - CUADRADOS, RECTANGULARES Y OVALADOS.



DIMENSIÓN NOMINAL	DIMENSIÓN EXTERIOR		ESPESOR DE PARED			PESO TUBO 6 m (Kg)
	(mm)	(pulg.)	(mm)	(pulg.)	Calibre	
1/2"	0.50	12.700	0.70	0.028	23	1.594
			0.80	0.031	22	1.757
			0.90	0.035	20	1.970
			1.10	0.043	19	2.388
3/4"	0.75	19.050	0.70	0.028	23	2.450
			0.80	0.031	22	2.703
			0.90	0.035	20	3.039
			1.10	0.043	19	3.700
1"	1.00	25.400	1.20	0.047	18	4.027
			0.70	0.028	23	3.264
			0.80	0.031	22	3.605
			0.90	0.035	20	4.057
			1.10	0.043	19	4.951
1 1/2"	1.50	38.100	1.20	0.047	18	5.394
			1.50	0.059	16	6.704
			0.80	0.031	22	5.527
			0.90	0.035	20	6.227
			1.10	0.043	19	7.618
			1.20	0.047	18	8.308
			1.50	0.059	16	10.362

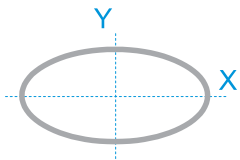
TUBOS CUADRADOS

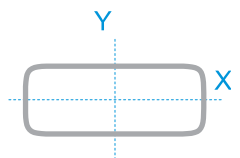


DIMENSIÓN EXTERIOR (mm)	ESPESOR DE PARED			PESO TUBO 6 m (Kg)
	(mm)	(pulg.)	Calibre	
12 X 25	0.80	0.031	22	2.496
	0.90	0.035	20	2.804
	1.10	0.043	19	3.413
	1.20	0.047	18	3.713
	1.50	0.059	16	4.593
18 X 32	0.80	0.031	22	3.605
	0.90	0.035	20	4.057
	1.10	0.043	19	4.951
	1.20	0.047	18	5.394
20 X 40	0.80	0.031	22	4.344
	0.90	0.035	20	4.892
	1.10	0.043	19	5.977
	1.20	0.047	18	6.515
25 X 50	1.50	0.059	16	8.111
	0.80	0.031	22	5.527
	0.90	0.035	20	6.227
	1.10	0.043	19	7.618
	1.20	0.047	18	8.308
30 X 44	1.50	0.059	16	10.362
	1.20	0.047	18	8.308
	1.50	0.059	16	10.362
38 X 76	1.00	0.039	19	10.459
	1.10	0.043	19	11.515
	1.20	0.047	18	12.568






TUBOS RECTANGULARES

TUBERÍA DE ACERO PARA FABRICACIÓN DE MUEBLES - CUADRADOS, RECTANGULARES Y OVALADOS.

 TUBOS OVALADOS	DIMENSIÓN EXTERIOR (mm)	ESPESOR DE PARED			PESO TUBO 6 m (Kg)
		(mm)	(pulg.)	Calibre	
14 X 28	0.90	0.035	20	2.805	
	1.20	0.047	18	3.713	
	1.50	0.059	16	4.593	
25 X 48	0.90	0.035	20	4.892	
	1.10	0.043	19	5.977	
	1.20	0.047	18	6.515	
	1.50	0.059	16	8.111	
31 X 61	0.90	0.035	20	6.228	
	1.20	0.047	18	8.309	
	1.50	0.059	16	10.362	

 TUBOS APLANADOS	DIMENSIÓN EXTERIOR (mm)	ESPESOR DE PARED			PESO TUBO 6 m (Kg)
		(mm)	(pulg.)	Calibre	
10 X 29	0.90	0.035	20	2.805	
	1.20	0.047	18	3.713	
	1.50	0.059	16	4.593	
14 X 29	0.9	0.035	20	3.222	
	1.2	0.047	18	4.273	
	1.5	0.059	16	5.297	
14 X 29	1.1	0.043	19	3.925	
	1.50	0.059	16	5.296	

RESUMEN






RESUMEN DE TUBOS ESTRUCTURALES MÁS COMERCIALES															
DIMENSIÓN (ALTURA)	CONDUCCIÓN			ESTR. CUADRADO			ESTR. REDONDO			ESTR. RECTANGULAR			CERRAMIENTO		
MILIMETROS (PULG.)															
	NOM. PULG.	D.E. MM	ESP. SCH	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM
9<h<9.53 (3/8")	3/8"	17.2	40												
	3/8"	17.2	80												
10<h<12.7 (1/2")	1/2"	21.3	40												
	1/2"	21.3	80												
							1/2"	20.5	1.50				1/2"	20.5	1.20
							1/2"	20.7	2.00				1/2"	20.7	1.50
13<h<19.05 (3/4")	3/4"	26.7	40												
	3/4"	26.7	80												
							3/4"	25.8	1.50				3/4"	25.8	1.20
							3/4"	26.1	2.00				3/4"	26.1	1.90
													3/4"	25.8	2.49
													3/4"	25.8	1.50
20<h<25.4 (1")	1"	33.4	40	1"x1"	25 x 25	1.50	1"	32.9	1.50				1"	32.9	1.20
	1"	33.4	80	1"x1"	25 x 25	2.00	1"	32.9	2.00				1"	32.9	1.50
													1"	32.9	1.90
													1"	32.8	2.29
													1"	32.9	2.49
													1"	33.4	2.67
													1"	33.4	2.95
													1"	33.4	3.25
													1"	32.9	1.90
													1"	32.9	2.49
26<h<31.7 (1 1/4")	1 1/4"	42.2	40												
	1 1/4"	42.2	80												
							1 1/4"	42.2	1.50				1 1/4"	42.2	1.20
							1 1/4"	42.2	2.00				1 1/4"	42.2	1.50
							1 1/4"	42.2	2.50				1 1/4"	42.2	1.90
													1 1/4"	41.6	2.29
32<h<38.1 (1 1/2")	1 1/2"	48.2	40	1 1/2"x1 1/2"	40 x 40	1.50	1 1/2"	48.3	1.50				1 1/2"	48.2	1.20
	1 1/2"	48.2	80	1 1/2"x1 1/2"	40 x 40	2.00	1 1/2"	48.3	2.00				1 1/2"	48.2	1.50
							1 1/2"	47.9	2.50				1 1/2"	48.2	1.90
													1 1/2"	47.7	2.29
													1 1/2"	47.7	2.49
													1 1/2"	47.7	2.67
													1 1/2"	47.7	2.95
													1 1/2"	47.7	3.25
													1 1/2"	47.7	3.25
													1 1/2"	47.7	3.25
39<h<50.8 (2")	2"	60.33	40	2"x2"	50 x 50	1.50	2"	59.9	1.50	2"x1/2"	50 x 13	1.50	2"	59.9	1.20
	2"	60.33	80	2"x2"	50 x 50	2.00	2"	59.9	2.00	2"x11/16"	50 x 30	1.50	2"	59.9	1.50
				2"x2"	50 x 50	2.50	2"	59.9	2.50	2"x11/16"	50 x 30	2.00	2"	59.9	1.90
							2"	60.3	3.00	2"x11/16"	50 x 30	2.00	2"	59.9	2.29
										2"x11/16"	50 x 30	2.00	2"	59.9	2.49
				2"x2"	50 x 50	3.00	2"	60.3	4.00	2"x11/16"	50 x 30	2.50	2"	59.9	2.67
SUBTOTAL		14			10		22			4			43		

Los productos sombreados SON de nuestra comercialización habitual.
 Otros productos venta solo bajo pedido, sujeto a entrega del productor.

Nota: Para identificar que productos debían hacer parte del presente resumen, nuestra empresa realizó un análisis basados en su experiencia en el sector. Es posible que en el mercado existan otros elementos de acero de uso estructural que también son comerciales en Colombia pero que no están incluidos en este resumen.

RESUMEN

RESUMEN DE TUBOS ESTRUCTURALES MÁS COMERCIALES

DIMENSION (ALTURA)	CONDUCCIÓN			ESTR. CUADRADO			ESTR. REDONDO			ESTR. RECTANGULAR			CERRAMIENTO				
MILIMETROS (PULG.)																	
	NOM. PULG.	D.E. MM	ESP. SCH	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM	NOM. PULG.	D.E. MM	ESP. MM		
51<h<63.5 (2 1/2")<70	2 1/2"	73	40	23/4"x23/4"	70 x 70	1.50	2 1/2"	72.4	2.00	23/8"x1 1/2"	60 x 40	1.50	2 1/2"	72.3	2.29		
	2 1/2"	73	80	23/4"x23/4"	70 x 70	2.00	2 1/2"	72.4	2.50	23/8"x1 1/2"	60 x 40	2.00	2 1/2"	72.3	2.49		
				23/4"x23/4"	70 x 70	2.50	2 1/2"	72.4	3.00	23/8"x1 1/2"	60 x 40	2.50	2 1/2"	72.3	2.67		
71<h<76.2 (3")<95	3"	88.9	40	3" x 3"	75 x 75	3.00	3"	88.2	2.00	3" x 1 1/2"	76 x 38	1.50	3"	88.2	2.29		
				3" x 3"	75 x 75	4.00	3"	88.2	2.50	3" x 1 1/2"	76 x 38	2.00	3"	88.2	2.49		
				3" x 3"	75 x 75	5.00	3"	88.2	3.00	3" x 1 1/2"	76 x 38	2.50	3"	88.2	2.67		
				3" x 3"	75 x 75	6.00	3"	88.2	4.00	3" x 1 1/2"	76 x 38	3.00	3"	88.2	2.95		
	3"	88.9	80	3 1/2"x3 1/2"	90 x 90	2.00	3"	88.9	5.50	33/16"x1 1/2"	80 x 40	3.00	3"	88.2	3.25		
				3 1/2"x3 1/2"	90 x 90	2.50				3 1/2" x 2"	90 x 50	1.50					
				3 1/2"x3 1/2"	90 x 90	2.50				3 1/2" x 2"	90 x 50	2.00					
				3 1/2"x3 1/2"	90 x 90	3.00				3 1/2" x 2"	90 x 50	2.50					
96<h<101.6(4")<125	4"	114.3	40	4" x 4"	100 x 100	3.00	4"	113.5	2.00	4"x1 1/2"	100 x 40	2.00	4"	113.4	2.29		
				4" x 4"	100 x 100	4.00				4"x1 1/2"	100 x 40	2.50					
				4" x 4"	100 x 100	5.00				4"x1 1/2"	100 x 40	3.00					
				4" x 4"	100 x 100	5.00				4"x2"	100 x 50	2.00					
	4"	114.3	80	4" x 4"	100 x 100	6.00	4"	114.3	6.00	4"x2"	100 x 50	2.50	4"	113.4	3.25		
										4"x2"	100 x 50	3.00					
										4"x2"	100 x 50	4.00					
										4"x2"	100 x 50	5.00					
102<H<127 (5")<140	5"	141.3	40		135 x 135	4.00	5"	127	3.40								
	5"	141.3	80		135 x 135	5.00											
	6"	168.3	40							6"	168.2	3.40	6" x 2"	150 x 50	3.00		
128<h<152.4 (6")	6"	168.3	80		150 x 150	6.00				6" x 2"	150 x 50	4.00					
									6"	168.2	6.00	6" x 2"	150 x 50	5.00			
									6"	168.2	7.10	6" x 4"	150 x 100	6.00			
153<h<203.2 (8")	8"	219.1	40		175 x 175	5.00	8"	219.1	5.00		160 x 65	3.40	8"	219.1	8.18		
					200 x 200	5.00					180 x 65	4.00					
											200 x 70	4.00					
											200 x 70	6.00					
204<h<254 (10")	10"	273.1	40		220 x 220	7.00	10"	273.1	9.27		200 x 100	4.00	10"	273.1	9.27		
	10"	273.1	80		250 x 250	9.00					250 x 150	5.00					
255<h<304.8 (12")	12"	323.9	40		300 x 300	7.00	12"	323.9	10.30		260 x 90	5.50					
305<h<355.6 (14")	14"	377.9	40								350 x 150	7					
356<h<406.4 (16")	16"	431.8	40								400 x 200	9					
>406.4																	
							16"	406.4	12.70								
							20"	508.0	12.70								
							24"	609.6	12.70								
SUB-TOTAL	17			23			28			38			15				
TOTAL	31			33			50			42			58				
GENERAL							214										

Los productos sombreados SON de nuestra comercialización habitual.
 Otros productos venta solo bajo pedido, sujeto a entrega del productor.

Nota: Para identificar que productos debían hacer parte del presente resumen, nuestra empresa realizó un análisis basados en su experiencia en el sector. Es posible que en el mercado existan otros elementos de acero de uso estructural que también son comerciales en Colombia pero que no están incluidos en este resumen.