Tubos y Barras Huecas

TUBOS Y BARRAS HUECAS

DIMENSIONES Y PESO DE TUBERIA DE ACERO SIN Y CON COSTURA DE ACERO AL CARBON
ASTM-A-53-B , A-106-B

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	PESOR DE RED MM	DIAMETRO ERIOR MM	PESO / MTR
1/8	0.405	0.068	0.269	STD	40	10.30	1.73	6.85	0.37
1/8	0.405	0.095	0.215	XS	80	10.30	2.41	5.47	0.47
1/4	0.540	0.088	0.364	STD	40	13.70	2.24	9.23	0.63
1/4	0.540	0.119	0.302	XS	80	13.70	3.02	7.65	0.80
3/8	0.675	0.091	0.493	STD	40	17.10	2.31	12.48	0.84
3/8	0.675	0.126	0.423	XS	80	17.10	3.20	10.70	1.10
1/2	0.840	0.109	0.622	STD	40	21.30	2.77	15.76	1.27
1/2	0.840	0.147	0.546	XS	80	21.30	3.73	13.83	1.62
1/2	0.840	0.188	0.464		160	21.30	4.78	11.75	1.95
1/2	0.840	0.294	0.252	XXS		21.30	7.47	6.36	2.55
3/4	1.050	0.113	0.824	STD	40	26.70	2.87	20.96	1.69
3/4	1.050	0.154	0.742	XS	80	26.70	3.91	18.88	2.20
3/4	1.050	0.219	0.612		160	26.70	5.56	15.57	2.90
3/4	1.050	0.308	0.434	XXS		26.70	7.82	11.05	3.64
1	1.315	0.133	1.049	STD	40	33.40	3.38	26.64	2.50
1	1.315	0.179	0.957	XS	80	33.40	4.55	24.31	3.24
1	1.315	0.250	0.815		160	33.40	6.35	20.70	4.24
1	1.315	0.358	0.599	XXS		33.40	9.09	15.21	5.45
1 1/4	1.660	0.140	1.380	STD	40	42.20	3.56	35.09	3.39
1 1/4	1.660	0.191	1.278	XS	80	42.20	4.85	32.50	4.47
1 1/4	1.660	0.250	1.160		160	42.20	6.35	29.50	5.61
1 1/4	1.660	0.382	0.896	XXS		42.20	9.70	22.79	7.77
1 1/2	1.900	0.145	1.610	STD	40	48.30	3.68	40.93	4.05
1 1/2	1.900	0.200	1.500	XS	80	48.30	5.08	38.14	5.41
1 1/2	1.900	0.281	1.338		160	48.30	7.14	34.03	7.25
1 1/2	1.900	0.400	1.100	XXS		48.30	10.16	27.98	9.56
2	2.375	0.083	2.209			60.30	2.11	56.08	3.03
2	2.375	0.109	2.157			60.30	2.77	54.76	3.93
2	2.375	0.125	2.125			60.30	3.18	53.95	4.48
2	2.375	0.141	2.093			60.30	3.58	53.14	5.01
2	2.375	0.154	2.067	STD	40	60.30	3.91	52.48	5.44
2	2.375	0.172	2.031			60.30	4.37	51.56	6.03
2	2.375	0.188	1.999			60.30	4.78	50.75	6.54
2	2.375	0.218	1.939	XS	80	60.30	5.54	49.23	7.48
2	2.375	0.250	1.875			60.30	6.35	47.60	8.45
2	2.375	0.281	1.813			60.30	7.14	46.03	9.36
2	2.375	0.344	1.687		160	60.30	8.74	42.82	11.11
2	2.375	0.436	1.503	XXS		60.30	11.07	38.15	13.44
2 1/2	2.875	0.083	2.709			73.00	2.11	68.78	3.69
2 1/2	2.875	0.109	2.657			73.00	2.77	67.46	4.80
2 1/2	2.875	0.125	2.625			73.00	3.18	66.65	5.48
2 1/2	2.875	0.141	2.593			73.00	3.58	65.84	6.13
2 1/2	2.875	0.156	2.563			73.00	3.96	65.08	6.74
2 1/2	2.875	0.172	2.531			73.00	4.37	64.26	7.40
2 1/2	2.875	0.188	2.499			73.00	4.78	63.45	8.04
2 1/2	2.875	0.203	2.469	STD	40	73.00	5.16	62.69	8.63
2 1/2	2.875	0.216	2.443			73.00	5.49	62.03	9.14
2 1/2	2.875	0.250	2.375			73.00	6.35	60.30	10.44
2 1/2	2.875	0.276	2.323	XS	80	73.00	7.01	58.98	11.41
2 1/2	2.875	0.375	2.125		160	73.00	9.53	53.95	14.92
2 1/2	2.875	0.552	1.771	XXS		73.00	14.02	44.96	20.39

3	3.500	0.083	3.334			88.90	2.11	84.68	4.52
3	3.500	0.109	3.282			88.90	2.77	83.36	5.88
3	3.500	0.125	3.250			88.90	3.18	82.55	6.72
3	3.500	0.141	3.218			88.90	3.58	81.74	7.53
3	3.500	0.156	3.188			88.90	3.96	80.98	8.29
3	3.500	0.172	3.156			88.90	4.37	80.16	9.11
3	3.500	0.188	3.124			88.90	4.78	79.35	9.92
3	3.500	0.216	3.068	STD	40	88.90	5.49	77.93	11.29

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
3	3.500	0.250	3.000			88.90	6.35	76.20	12.93
3	3.500	0.281	2.938			88.90	7.14	74.63	14.40
3	3.500	0.300	2.900	XS	80	88.90	7.62	73.66	15.27
3	3.500	0.438	2.624		160	88.90	11.13	66.65	21.35
3	3.500	0.600	2.300	XXS		88.90	15.24	58.42	27.68
3 1/2	4.000	0.083	3.834			101.60	2.11	97.38	5.18
3 1/2	4.000	0.109	3.782			101.60	2.77	96.06	6.75
3 1/2	4.000	0.125	3.750			101.60	3.18	95.25	7.72
3 1/2	4.000	0.141	3.718			101.60	3.58	94.44	8.65
3 1/2	4.000	0.156	3.688			101.60	3.96	93.68	9.53
3 1/2	4.000	0.172	3.656			101.60	4.37	92.86	10.48
3 1/2	4.000	0.188	3.624			101.60	4.78	92.05	11.41
3 1/2	4.000	0.226	3.548	STD	40	101.60	5.74	90.12	13.57
3 1/2	4.000	0.250	3.500			101.60	6.35	88.90	14.92
3 1/2	4.000	0.281	3.438			101.60	7.14	87.33	16.63
3 1/2	4.000	0.318	3.364	XS	80	101.60	8.08	85.45	18.63
3 1/2	4.000	0.438	3.124		160	101.60	11.13	79.35	21.33
4	4.500	0.083	4.334			114.30	2.11	110.08	5.84
4	4.500	0.109	4.282			114.30	2.77	108.76	7.62
4	4.500	0.125	4.250			114.30	3.18	107.95	8.71
4	4.500	0.141	4.218			114.30	3.58	107.14	9.77
4	4.500	0.156	4.188			114.30	3.96	106.38	10.78
4	4.500	0.172	4.156			114.30	4.37	105.56	11.85
4	4.500	0.188	4.124			114.30	4.78	104.75	12.91
4	4.500	0.203	4.094			114.30	5.16	103.99	13.89
4	4.500	0.219	4.062			114.30	5.56	103.17	14.91
4	4.500	0.237	4.026	STD	40	114.30	6.02	102.26	16.07
4	4.500	0.250	4.000			114.30	6.35	101.60	16.90
4	4.500	0.281	3.938			114.30	7.14	100.03	18.87
4	4.500	0.312	3.876			114.30	7.92	98.45	20.78
4	4.500	0.337	3.826	XS	80	114.30	8.56	97.18	22.32
4	4.500	0.438	3.624		120	114.30	11.13	92.05	28.32
4	4.500	0.531	3.438		160	114.30	13.49	87.33	33.54
4	4.500	0.674	3.152	XXS		114.30	17.12	80.06	41.03
4 1/2	5.000	0.247	4.506	STD		127.00	6.27	114.45	18.65
4 1/2	5.000	0.355	4.290	XS		127.00	9.02	108.97	26.22
4 1/2	5.000	0.710	3.580	XXS		127.00	18.03	90.93	48.44
5	5.563	0.083	5.397			141.30	2.11	137.08	7.24
5	5.563	0.125	5.313			141.30	3.18	134.95	10.83
5	5.563	0.156	5.251			141.30	3.96	133.38	13.41
5	5.563	0.188	5.187			141.30	4.78	131.75	16.09
5	5.563	0.219	5.125			141.30	5.56	130.17	18.61
5	5.563	0.258	5.047	STD	40	141.30	6.55	128.19	21.77
5	5.563	0.281	5.001			141.30	7.14	127.03	23.62
5	5.563	0.312	4.939			141.30	7.92	125.45	26.05
5	5.563	0.344	4.875			141.30	8.74	123.82	28.57
5	5.563	0.375	4.813	XS	80	141.30	9.53	122.25	30.97
5	5.563	0.500	4.563		120	141.30	12.70	115.90	40.28
5	5.563	0.625	4.313		160	141.30	15.88	109.55	49.11

5	5.563	0.750	4.063	XXS		141.30	19.05	103.20	57.43
6	6.625	0.083	6.459			168.30	2.11	164.08	8.65
6	6.625	0.109	6.407			168.30	2.77	162.76	11.31
6	6.625	0.125	6.375			168.30	3.18	161.95	12.95
6	6.625	0.141	6.343			168.30	3.58	161.14	14.54
6	6.625	0.156	6.313			168.30	3.96	160.38	16.05
6	6.625	0.172	6.281			168.30	4.37	159.56	17.67
6	6.625	0.188	6.249			168.30	4.78	158.75	19.27
6	6.625	0.203	6.219			168.30	5.16	157.99	20.76
6	6.625	0.219	6.187			168.30	5.56	157.17	22.31
6	6.625	0.250	6.125			168.30	6.35	155.60	25.36
6	6.625	0.280	6.065	STD	40	168.30	7.11	154.08	28.26
6	6.625	0.312	6.001			168.30	7.92	152.45	31.32
6	6.625	0.344	5.937			168.30	8.74	150.82	34.39
6	6.625	0.375	5.875			168.30	9.53	149.25	37.31
6	6.625	0.432	5.761	XS	80	168.30	10.97	146.35	42.56
6	6.625	0.500	5.625			168.30	12.70	142.90	48.73

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6	6.625	0.562	5.501		120	168.30	14.27	139.75	54.20
6	6.625	0.625	5.375			168.30	15.88	136.55	59.69
6	6.625	0.719	5.187		160	168.30	18.26	131.77	67.56
6	6.625	0.864	4.897	XXS		168.30	21.95	124.41	79.22
7	7.625	0.301	7.023	STD		193.67	7.65	178.38	35.09
7	7.625	0.500	6.625	XS		193.67	12.70	168.27	56.66
7	7.625	0.875	5.875	XXS		193.67	22.23	149.22	93.93
8	8.625	0.125	8.375			219.10	3.18	212.75	16.93
8	8.625	0.156	8.313			219.10	3.96	211.18	21.02
8	8.625	0.188	8.249			219.10	4.78	209.55	25.26
8	8.625	0.203	8.219			219.10	5.16	208.79	27.22
8	8.625	0.219	8.187			219.10	5.56	207.97	29.28
8	8.625	0.250	8.125		20	219.10	6.35	206.40	33.31
8	8.625	0.277	8.071		30	219.10	7.04	205.03	36.81
8	8.625	0.312	8.001			219.10	7.92	203.25	41.24
8	8.625	0.322	7.981	STD	40	219.10	8.18	202.74	42.55
8	8.625	0.344	7.937			219.10	8.74	201.62	45.34
8	8.625	0.375	7.875			219.10	9.53	200.05	49.25
8	8.625	0.406	7.813		60	219.10	10.31	198.48	53.08
8	8.625	0.438	7.749			219.10	11.13	196.85	57.08
8	8.625	0.500	7.625	XS	80	219.10	12.70	193.70	64.64
8	8.625	0.562	7.501			219.10	14.27	190.55	72.08
8	8.625	0.594	7.437		100	219.10	15.09	188.92	75.92
8	8.625	0.625	7.375			219.10	15.88	187.35	79.58
8	8.625	0.719	7.187		120	219.10	18.26	182.57	90.44
8	8.625	0.832	6.961		140	219.10	21.13	176.83	100.92
8	8.625	0.875	6.875	XXS		219.10	22.23	174.65	107.92
8	8.625	0.906	6.813		160	219.10	23.01	173.08	111.27
9	9.625	0.342	8.941	STD		244.47	8.69	227.10	50.48
9	9.625	0.500	8.625	XS		244.47	12.70	219.07	72.55
10	10.750	0.156	10.438			273.10	3.96	265.18	26.28
10	10.750	0.188	10.374			273.10	4.78	263.55	31.63
10	10.750	0.203	10.344			273.10	5.16	262.79	34.09
10	10.750	0.219	10.312			273.10	5.56	261.97	36.68
10	10.750	0.250	10.250		20	273.10	6.35	260.40	41.77
10	10.750	0.279	10.192			273.10	7.09	258.93	46.51
10	10.750	0.307	10.136		30	273.10	7.80	257.50	51.03
10	10.750	0.344	10.062			273.10	8.74	255.62	56.98
10	10.750	0.365	10.020	STD	40	273.10	9.27	254.56	60.31
10	10.750	0.438	9.874			273.10	11.13	250.85	71.90

10	10.750	0.500	9.750	XS	60	273.10	12.70	247.70	81.55
10	10.750	0.562	9.626			273.10	14.27	244.55	91.08
10	10.750	0.594	9.562		80	273.10	15.09	242.92	96.01
10	10.750	0.625	9.500			273.10	15.88	241.35	100.73
10	10.750	0.719	9.312		100	273.10	18.26	236.57	114.75
10	10.750	0.812	9.126			273.10	20.62	231.85	128.38
10	10.750	0.844	9.062		120	273.10	21.44	230.22	133.06
10	10.750	1.000	8.750	XXS	140	273.10	25.40	222.30	155.15
10	10.750	1.125	8.500		160	273.10	28.58	215.95	172.33
11	11.750	0.375	11.000	STD		298.45	9.53	279.40	67.83
11	11.750	0.500	10.750	XS		298.45	12.70	273.05	89.45
12	12.750	0.172	12.406			323.90	4.37	315.16	34.43
12	12.750	0.188	12.374			323.90	4.78	314.35	37.62
12	12.750	0.203	12.344			323.90	5.16	313.59	40.56
12	12.750	0.219	12.312			323.90	5.56	312.77	43.65
12	12.750	0.250	12.250		20	323.90	6.35	311.20	49.73
12	12.750	0.281	12.188			323.90	7.14	309.63	55.77
12	12.750	0.312	12.126			323.90	7.92	308.05	61.71
12	12.750	0.330	12.090		30	323.90	8.38	307.14	65.20
12	12.750	0.344	12.062			323.90	8.74	306.42	57.93
12	12.750	0.375	12.000	STD		323.90	9.53	304.85	73.88
12	12.750	0.406	11.938		40	323.90	10.31	303.28	79.73
12	12.750	0.438	11.874			323.90	11.13	301.65	85.84
12	12.750	0.500	11.750	XS		323.90	12.70	298.50	97.46
12	12.750	0.562	11.626		60	323.90	14.27	295.35	108.96

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
12	12.750	0.625	11.500			323.90	15.88	292.15	120.62
12	12.750	0.688	11.374		80	323.90	17.48	288.95	132.08
12	12.750	0.750	11.250			323.90	19.05	285.80	143.21
12	12.750	0.812	11.126			323.90	20.62	282.65	154.21
12	12.750	0.844	11.062		100	323.90	21.44	281.02	159.91
12	12.750	0.875	11.000			323.90	22.23	279.45	165.37
12	12.750	1.000	10.750	XXS	120	323.90	25.40	273.10	186.97
12	12.750	1.125	10.500		140	323.90	28.58	266.75	208.14
12	12.750	1.312	10.126		160	323.90	33.32	257.25	238.76
14	14.000	0.188	13.624			355.60	4.78	346.05	41.35
14	14.000	0.203	13.594			355.60	5.16	345.29	44.59
14	14.000	0.210	13.580			355.60	5.33	344.93	46.04
14	14.000	0.219	13.562			355.60	5.56	344.47	47.99
14	14.000	0.250	13.500		10	355.60	6.35	342.90	54.69
14	14.000	0.281	13.438			355.60	7.14	341.33	61.35
14	14.000	0.312	13.376		20	355.60	7.92	339.75	67.90
14	14.000	0.344	13.312			355.60	8.74	338.12	74.76
14	14.000	0.375	13.250	STD	30	355.60	9.53	336.55	81.33
14	14.000	0.406	13.188			355.60	10.31	334.98	87.79
14	14.000	0.438	13.124		40	355.60	11.13	333.35	94.55
14	14.000	0.469	13.062			355.60	11.91	331.77	100.94
14	14.000	0.500	13.000	XS		355.60	12.70	330.20	107.39
14	14.000	0.562	12.876			355.60	14.27	327.05	120.11
14	14.000	0.594	12.812		60	355.60	15.09	325.42	126.71
14	14.000	0.625	12.750			355.60	15.88	323.85	133.03
14	14.000	0.688	12.624			355.60	17.48	320.65	145.75
14	14.000	0.750	12.500		80	355.60	19.05	317.50	158.10
14	14.000	0.812	12.376			355.60	20.62	314.35	170.33
14	14.000	0.875	12.250			355.60	22.23	311.15	182.75
14	14.000	0.938	12.124		100	355.60	23.83	307.95	194.96
14	14.000	1.094	11.812		120	355.60	27.79	300.02	224.65
14	14.000	1.250	11.500		140	355.60	31.75	292.10	253.56

14	14.000	1.406	11.188		160	355.60	35.71	284.18	281.70
14	14.000	2.000	10.000			355.60	50.80	254.00	381.83
14	14.000	2.125	9.750			355.60	53.98	247.65	401.50
14	14.000	2.200	9.600			355.60	55.88	243.84	413.01
14	14.000	2.500	9.000			355.60	63.50	228.60	457.40
16	16.000	0.188	15.624			406.40	4.78	396.85	62.64
16	16.000	0.203	15.594			406.40	5.16	396.09	70.30
16	16.000	0.219	15.562			406.40	5.56	395.27	77.83
16	16.000	0.250	15.500		10	406.40	6.35	393.70	62.64
16	16.000	0.281	15.438			406.40	7.14	392.13	70.30
16	16.000	0.312	15.376		20	406.40	7.92	390.55	77.83
16	16.000	0.344	15.312			406.40	8.74	388.92	85.71
16	16.000	0.375	15.250	STD	30	406.40	9.53	387.35	93.27
16	16.000	0.406	15.188			406.40	10.31	385.78	100.70
16	16.000	0.438	15.124			406.40	11.13	384.15	108.49
16	16.000	0.469	15.062			406.40	11.91	382.57	115.86
16	16.000	0.500	15.000	XS	40	406.40	12.70	381.00	123.30
16	16.000	0.562	14.876			406.40	14.27	377.85	137.99
16	16.000	0.625	14.750			406.40	15.88	374.65	152.93
16	16.000	0.656	14.688		60	406.40	16.66	373.08	160.12
16	16.000	0.688	14.624			406.40	17.48	371.45	167.65
16	16.000	0.750	14.500			406.40	19.05	368.30	181.97
16	16.000	0.812	14.376			406.40	20.62	365.15	196.16
16	16.000	0.844	14.312		80	406.40	21.44	363.52	203.53
16	16.000	0.875	14.250			406.40	22.23	361.95	210.60
16	16.000	0.938	14.124			406.40	23.83	358.75	224.82
16	16.000	1.000	14.000			406.40	25.40	355.60	238.64
16	16.000	1.031	13.938		100	406.40	26.19	354.03	245.56
16	16.000	1.062	13.876			406.40	26.97	352.45	252.35
16	16.000	1.125	13.750			406.40	28.58	349.25	266.28
16	16.000	1.219	13.562		120	406.40	30.96	344.47	286.64
16	16.000	1.438	13.124		140	406.40	36.53	333.35	333.19
16	16.000	1.594	12.812		160	406.40	40.49	325.42	365.35

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
18	18.000	0.188	17.624			457.00	4.78	447.45	53.31
18	18.000	0.219	17.562			457.00	5.56	445.87	61.90
18	18.000	0.250	17.500		10	457.00	6.35	444.30	70.57
18	18.000	0.281	17.438			457.00	7.14	442.73	79.21
18	18.000	0.312	17.376		20	457.00	7.92	441.15	87.21
18	18.000	0.344	17.312			457.00	8.74	439.52	96.61
18	18.000	0.375	17.250	STD		457.00	9.53	437.95	105.16
18	18.000	0.406	17.188			457.00	10.31	436.38	113.57
18	18.000	0.438	17.124		30	457.00	11.13	434.75	122.38
18	18.000	0.459	17.082			457.00	11.66	433.68	13.72
18	18.000	0.500	17.000	XS		457.00	12.70	431.60	139.15
18	18.000	0.562	16.876		40	457.00	14.27	428.45	155.80
18	18.000	0.625	16.750			457.00	15.88	425.25	172.74
18	18.000	0.688	16.624			457.00	17.48	422.05	189.46
18	18.000	0.750	16.500		60	457.00	19.05	418.90	205.74
18	18.000	0.812	16.376			457.00	20.62	415.75	221.89
18	18.000	0.875	16.250			457.00	22.23	412.55	238.34
18	18.000	0.938	16.124		80	457.00	23.83	409.35	254.55
18	18.000	1.000	16.000			457.00	25.40	406.20	270.34
18	18.000	1.062	15.876			457.00	26.97	403.05	286.00
18	18.000	1.125	15.750			457.00	28.58	399.85	301.94
18	18.000	1.156	15.688		100	457.00	29.36	398.28	309.62
18	18.000	1.188	15.624			457.00	30.18	396.65	317.66
18	18.000	1.250	15.500			457.00	31.75	393.50	332.95

18	18.000	1.375	15.250		120	457.00	34.93	387.15	363.56
18	18.000	1.562	14.876		140	457.00	39.67	377.65	408.26
18	18.000	1.781	14.438		160	457.00	45.24	366.53	459.37
20	20.000	0.219	19.562			508.00	5.56	496.87	68.89
20	20.000	0.250	19.500		10	508.00	6.35	495.30	78.55
20	20.000	0.281	19.438			508.00	7.14	493.73	88.19
20	20.000	0.312	19.376			508.00	7.92	492.15	97.67
20	20.000	0.344	19.312			508.00	8.74	490.52	107.60
20	20.000	0.375	19.250	STD	20	508.00	9.53	488.95	117.15
20	20.000	0.406	19.188			508.00	10.31	487.38	126.53
20	20.000	0.438	19.124			508.00	11.13	485.75	136.37
20	20.000	0.469	19.062			508.00	11.91	484.17	145.70
20	20.000	0.500	19.000	XS	30	508.00	12.70	482.60	155.12
20	20.000	0.562	18.876			508.00	14.27	479.45	173.74
20	20.000	0.594	18.812		40	508.00	15.09	477.82	183.42
20	20.000	0.625	18.750			508.00	15.88	476.25	192.71
20	20.000	0.688	18.624			508.00	17.48	473.05	211.44
20	20.000	0.750	18.500			508.00	19.05	469.90	229.70
20	20.000	0.812	18.376		60	508.00	20.62	466.75	247.83
20	20.000	0.875	18.250			508.00	22.23	463.55	266.29
20	20.000	0.938	18.124			508.00	23.83	460.35	254.52
20	20.000	1.000	18.000			508.00	25.40	457.20	302.28
20	20.000	1.031	17.938		80	508.00	26.19	455.63	311.17
20	20.000	1.062	17.876			508.00	26.97	454.05	319.92
20	20.000	1.125	17.750			508.00	28.58	450.85	337.89
20	20.000	1.188	17.624			508.00	30.18	447.65	355.61
20	20.000	1.250	17.500			508.00	31.75	444.50	372.88
20	20.000	1.281	17.438		100	508.00	32.54	442.93	381.53
20	20.000	1.312	17.376			508.00	33.32	441.35	390.03
20	20.000	1.375	17.250			508.00	34.93	438.15	407.49
20	20.000	1.500	17.000		120	508.00	38.10	431.80	441.49
20	20.000	1.750	16.500		140	508.00	44.45	419.10	508.11
20	20.000	1.969	16.062		160	508.00	50.01	407.97	564.81
22	22.000	0.250	21.500		10	558.80	6.35	546.10	86.47
22	22.000	0.375	21.250	STD	20	558.80	9.53	539.75	128.97
22	22.000	0.500	21.000	XS	30	558.80	12.70	533.40	170.95
22	22.000	0.875	20.250		60	558.80	22.23	514.35	293.95
22	22.000	1.125	19.750		80	558.80	28.58	501.65	373.47
22	22.000	1.375	19.250		100	558.80	34.93	488.95	451.05
22	22.000	1.625	18.750		120	558.80	41.28	476.25	526.55

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
22	22.000	1.875	18.250		140	558.80	47.63	463.55	600.12
22	22.000	2.125	17.750		160	558.80	53.98	450.85	671.74
24	24.000	0.250	23.500		10	610.00	6.35	597.30	94.53
24	24.000	0.281	23.438			610.00	7.14	595.73	106.15
24	24.000	0.312	23.376			610.00	7.92	594.15	117.59
24	24.000	0.344	23.312			610.00	8.74	592.52	129.59
24	24.000	0.375	23.250	STD	20	610.00	9.53	590.95	141.12
24	24.000	0.406	23.188			610.00	10.31	589.38	152.47
24	24.000	0.438	23.124			610.00	11.13	587.75	164.37
24	24.000	0.459	23.082			610.00	11.66	586.68	175.66
24	24.000	0.500	23.000	XS		610.00	12.70	584.60	187.06
24	24.000	0.562	22.876		30	610.00	14.27	581.45	209.64
24	24.000	0.625	22.750			610.00	15.88	578.25	232.66
24	24.000	0.688	22.624		40	610.00	17.48	575.05	255.41
24	24.000	0.750	22.500			610.00	19.05	571.90	277.61
24	24.000	0.812	22.376			610.00	20.62	568.75	299.69
24	24.000	0.875	22.250			610.00	22.23	565.55	322.21

24	24.000	0.938	22.124			610.00	23.83	562.35	344.46
24	24.000	0.969	22.062		60	610.00	24.61	560.77	355.26
24	24.000	1.000	22.000			610.00	25.40	559.20	366.17
24	24.000	1.062	21.876			610.00	26.97	556.05	387.76
24	24.000	1.125	21.750			610.00	28.58	552.85	409.77
24	24.000	1.188	21.624			610.00	30.18	549.65	431.52
24	24.000	1.219	21.562		80	610.00	30.96	548.07	442.08
24	24.000	1.250	21.500			610.00	31.75	546.50	452.74
24	24.000	1.312	21.376			610.00	33.32	543.35	473.84
24	24.000	1.375	21.250			610.00	34.93	540.15	495.35
24	24.000	1.438	21.124			610.00	36.53	536.95	516.80
24	24.000	1.500	21.000			610.00	38.10	533.80	537.33
24	24.000	1.531	20.938		100	610.00	38.89	532.23	547.71
24	24.000	1.562	20.876			610.00	39.67	530.65	557.43
24	24.000	1.812	20.376		120	610.00	46.02	517.95	640.03
24	24.000	2.062	19.876		140	610.00	52.37	505.25	720.15
24	24.000	2.344	19.312		160	610.00	59.54	490.92	808.22
26	26.000	0.312	25.376		10	660.40	7.92	644.55	127.47
26	26.000	0.375	25.250	STD		660.40	9.53	641.35	152.78
26	26.000	0.500	25.000	XS	20	660.40	12.70	635.00	202.82
26	26.000	0.750	24.500		100	660.40	19.05	622.30	301.25
26	26.000	1.000	24.000		120	660.40	25.40	609.60	397.60
26	26.000	1.256	23.488		140	660.40	31.90	596.60	492.01
26	26.000	1.500	23.000		160	660.40	38.10	584.20	584.48
26	26.000	2.000	22.000	XXS		660.40	50.80	558.80	763.32
28	28.000	0.312	27.376		10	711.20	7.92	695.35	139.02
28	28.000	0.375	27.250	STD		711.20	9.53	692.15	164.70
28	28.000	0.500	27.000	XS	20	711.20	12.70	685.80	218.60
28	28.000	0.625	26.750		30	711.20	15.88	679.45	272.06
28	28.000	0.750	26.500		100	711.20	19.05	673.10	325.07
28	28.000	1.000	26.000		120	711.20	25.40	660.40	429.46
28	28.000	1.250	25.500		140	711.20	31.75	647.70	531.76
28	28.000	1.500	25.000		160	711.20	38.10	635.00	632.13
28	28.000	2.000	24.000		XXS	711.20	50.80	609.60	827.06
30	30.000	0.25	29.500			762.00	6.35	749.30	118.33
30	30.000	0.281	29.438			762.00	7.14	747.73	132.91
30	30.000	0.312	29.376		10	762.00	7.92	746.15	147.28
30	30.000	0.344	29.312			762.00	8.74	744.53	162.35
30	30.000	0.375	29.250	STD		762.00	9.53	742.95	176.84
30	30.000	0.406	29.188			762.00	10.31	741.38	191.11
30	30.000	0.438	29.124			762.00	11.13	739.75	206.09
30	30.000	0.469	29.062			762.00	11.91	738.18	220.30
30	30.000	0.500	29.000	XS	20	762.00	12.70	736.60	234.67
30	30.000	0.562	28.876			762.00	14.27	733.45	263.12
30	30.000	0.625	28.750		30	762.00	15.88	730.25	292.18
30	30.000	0.688	28.624			762.00	17.48	727.05	320.93
30	30.000	0.750	28.500		100	762.00	19.05	723.90	349.02

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
30	30.000	0.812	28.376			762.00	20.62	720.75	376.98
30	30.000	0.875	28.250			762.00	22.23	717.55	405.54
30	30.000	0.938	28.124			762.00	23.83	714.35	433.78
30	30.000	1.000	28.000		120	762.00	25.40	711.20	461.38
30	30.000	1.062	27.876			762.00	26.97	708.05	488.85
30	30.000	1.125	27.750			762.00	28.58	704.85	516.90
30	30.000	1.188	27.624			762.00	30.18	701.65	544.65
30	30.000	1.250	27.500		140	762.00	31.75	698.50	571.75
30	30.000	1.500	27.000		160	762.00	38.10	685.80	679.93
30	30.000	2.000	26.000	XXS		762.00	50.80	660.40	890.64

32	32.000	0.312	31.376		10	812.80	7.92	796.95	157.25
32	32.000	0.375	31.250	STD		812.80	9.53	793.75	188.67
32	32.000	0.500	31.000	XS	20	812.80	12.70	787.40	250.47
32	32.000	0.625	30.750		30	812.80	15.88	781.05	311.82
32	32.000	0.750	30.500		100	812.80	19.05	774.70	372.73
32	32.000	1.000	30.000		120	812.80	25.40	762.00	493.05
32	32.000	1.250	29.500		140	812.80	31.75	749.30	611.43
32	32.000	1.500	29.000		160	812.80	38.10	736.60	724.61
32	32.000	2.000	28.000	XXS		812.80	50.80	711.20	954.23
34	34.000	0.312	33.376		10	863.60	7.92	847.75	167.23
34	34.000	0.375	33.250	STD		863.60	9.53	844.55	200.58
34	34.000	0.500	33.000	XS	20	863.60	12.70	838.20	266.40
34	34.000	0.625	32.750		30	863.60	15.88	831.85	331.78
34	34.000	0.750	32.500		100	863.60	19.05	825.50	396.55
34	34.000	1.000	32.000		120	863.60	25.40	812.80	524.77
34	34.000	1.250	31.500		140	863.60	31.75	800.10	651.04
34	34.000	1.500	31.000		160	863.60	38.10	787.40	775.38
34	34.000	2.000	30.000	XXS		863.60	50.80	762.00	1,017.81
36	36.000	0.25	35.500			914.40	6.35	901.70	142.13
36	36.000	0.281	35.438			914.40	7.14	900.13	159.67
36	36.000	0.312	35.376		10	914.40	7.92	898.55	176.96
36	36.000	0.344	35.312			914.40	8.74	896.93	195.11
36	36.000	0.375	35.250	STD		914.40	9.53	895.35	212.56
36	36.000	0.406	35.188			914.40	10.31	893.78	229.76
36	36.000	0.438	35.124			914.40	11.13	892.15	247.31
36	36.000	0.469	35.062			914.40	11.91	890.58	264.94
36	36.000	0.500	35.000	XS	20	914.40	12.70	889.00	282.27
36	36.000	0.562	34.876			914.40	14.27	885.85	316.11
36	36.000	0.625	34.750		30	914.40	15.88	882.65	351.70
36	36.000	0.688	34.624			914.40	17.48	879.45	386.45
36	36.000	0.750	34.500		40	914.40	19.05	876.30	420.42
36	36.000	0.812	34.376			914.40	20.62	873.15	454.27
36	36.000	0.875	34.250		100	914.40	22.23	869.95	488.86
36	36.000	0.938	34.124			914.40	23.83	866.75	523.11
36	36.000	1.000	34.000		120	914.40	25.40	863.60	556.59
36	36.000	1.062	33.876			914.40	26.97	860.45	589.95
36	36.000	1.125	33.750			914.40	28.58	857.25	624.03
36	36.000	1.188	33.624			914.40	30.18	854.05	654.77
36	36.000	1.250	33.500		140	914.40	31.75	850.90	690.76
36	36.000	1.500	33.000			914.40	38.10	838.20	823.04
36	36.000	2.000	32.000			914.40	50.80	812.80	1,081.40
38	38.000	0.312	37.376			965.20	7.92	949.35	186.92
38	38.000	0.344	37.312			965.20	8.74	947.73	206.10
38	38.000	0.375	37.250	STD		965.20	9.53	946.15	224.54
38	38.000	0.406	37.188			965.20	10.31	944.58	242.72
38	38.000	0.438	37.124			965.20	11.13	942.95	261.80
38	38.000	0.469	37.062			965.20	11.91	941.38	279.92
38	38.000	0.500	37.000	XS		965.20	12.70	939.80	298.24
38	38.000	0.562	36.876			965.20	14.27	936.65	334.56
38	38.000	0.625	36.750			965.20	15.88	933.45	371.68
38	38.000	0.688	36.624			965.20	17.48	930.25	408.43
38	38.000	0.750	36.500			965.20	19.05	927.10	444.38
38	38.000	0.812	36.376			965.20	20.62	923.95	480.21
38	38.000	0.875	36.250			965.20	22.23	920.75	516.82
38	38.000	0.938	36.124			965.20	23.83	917.55	553.08
38	38.000	1.000	36.000			965.20	25.40	914.40	588.53
38	38.000	1.062	35.876			965.20	26.97	911.25	623.87

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	PESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR

38	38.000	1.125	35.750			965.20	28.58	908.05	659.97
38	38.000	1.188	35.624			965.20	30.18	904.85	695.73
38	38.000	1.250	35.500			965.20	31.75	901.70	730.69
40	40.000	0.312	39.376			1,016.00	7.92	1,000.15	196.89
40	40.000	0.344	39.312			1,016.00	8.74	998.53	217.09
40	40.000	0.375	39.250	STD		1,016.00	9.53	996.95	236.53
40	40.000	0.406	39.188			1,016.00	10.31	995.38	255.69
40	40.000	0.438	39.124			1,016.00	11.13	993.75	275.80
40	40.000	0.469	39.062			1,016.00	11.91	992.18	294.90
40	40.000	0.500	39.000	XS		1,016.00	12.70	990.60	314.22
40	40.000	0.562	38.876			1,016.00	14.27	987.45	352.51
40	40.000	0.625	38.750			1,016.00	15.88	984.25	391.65
40	40.000	0.688	38.624			1,016.00	17.48	981.05	430.42
40	40.000	0.750	38.500			1,016.00	19.05	977.90	468.34
40	40.000	0.812	38.376			1,016.00	20.62	974.75	506.14
40	40.000	0.875	38.250			1,016.00	22.23	971.55	544.78
40	40.000	0.938	38.124			1,016.00	23.83	968.35	583.05
40	40.000	1.000	38.000			1,016.00	25.40	965.20	620.48
40	40.000	1.062	37.876			1,016.00	26.97	962.05	657.78
40	40.000	1.125	37.750			1,016.00	28.58	958.85	695.92
42	42.000	0.344	41.312			1,067.00	8.74	1,049.52	228.09
42	42.000	0.375	41.250	STD		1,067.00	9.53	1,047.95	248.52
42	42.000	0.406	41.188			1,067.00	10.31	1,046.38	268.66
42	42.000	0.438	41.124			1,067.00	11.13	1,044.75	289.80
42	42.000	0.469	41.062			1,067.00	11.91	1,043.17	309.88
42	42.000	0.500	41.000	XS		1,067.00	12.70	1,041.60	330.19
42	42.000	0.562	40.876			1,067.00	14.27	1,038.45	370.45
42	42.000	0.625	40.750			1,067.00	15.88	1,035.25	411.62
42	42.000	0.688	40.624			1,067.00	17.48	1,032.05	452.40
42	42.000	0.750	40.500			1,067.00	19.05	1,028.90	492.30
42	42.000	0.812	40.376			1,067.00	20.62	1,025.75	532.07
42	42.000	0.875	40.250		100	1,067.00	22.23	1,022.55	572.73
42	42.000	0.938	40.124			1,067.00	23.83	1,019.35	613.02
42	42.000	1.000	40.000		120	1,067.00	25.40	1,016.20	652.42
42	42.000	1.062	39.876			1,067.00	26.97	1,013.05	691.70
42	42.000	1.125	39.750			1,067.00	28.58	1,009.85	731.86
42	42.000	1.188	39.624			1,067.00	30.18	1,006.65	771.64
42	42.000	1.250	39.500		140	1,067.00	31.75	1,003.50	810.55
42	42.000	1.500	39.000			1,067.00	38.10	990.80	966.14
42	42.000	2.000	38.000			1,067.00	50.80	965.40	1,272.30
44	44.000	0.344	43.312			1,118.00	8.74	1,100.52	239.08
44	44.000	0.375	43.250			1,118.00	9.53	1,098.95	260.50
44	44.000	0.406	43.188			1,118.00	10.31	1,097.38	281.62
44	44.000	0.438	43.124			1,118.00	11.13	1,095.75	303.80
44	44.000	0.459	43.082			1,118.00	11.66	1,094.68	324.80
44	44.000	0.500	43.000			1,118.00	12.70	1,092.60	346.16
44	44.000	0.562	42.876			1,118.00	14.27	1,089.45	388.40
44	44.000	0.625	42.750			1,118.00	15.88	1,086.25	431.59
44	44.000	0.688	42.624	STD		1,118.00	17.48	1,083.05	474.37
44	44.000	0.750	42.500			1,118.00	19.05	1,079.90	516.26
44	44.000	0.812	42.376			1,118.00	20.62	1,076.75	558.00
44	44.000	0.875	42.250			1,118.00	22.23	1,073.55	600.69
44	44.000	0.938	42.124	XS		1,118.00	23.83	1,070.35	642.99
44	44.000	1.000	42.000			1,118.00	25.40	1,067.20	684.37
44	44.000	1.062	41.876			1,118.00	26.97	1,064.05	725.62
44	44.000	1.125	41.750			1,118.00	28.58	1,060.85	767.80
44	44.000	1.188	41.624			1,118.00	30.18	1,057.65	809.60
44	44.000	1.250	41.500			1,118.00	31.75	1,054.50	850.48
46	46.000	0.344	45.312			1,168.00	8.74	1,150.52	249.85
46	46.000	0.375	45.250			1,168.00	9.53	1,148.95	272.25
46	46.000	0.406	45.188			1,168.00	10.31	1,147.38	294.34

46	46.000	0.438	45.124			1,168.00	11.13	1,145.75	317.52
46	46.000	0.459	45.082			1,168.00	11.66	1,144.68	339.54
46	46.000	0.500	45.000			1,168.00	12.70	1,142.60	351.82
46	46.000	0.562	44.876			1,168.00	14.27	1,139.45	406.00
46	46.000	0.625	44.750			1,168.00	15.88	1,136.25	451.17

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
46	46.000	0.688	44.624			1,168.00	17.48	1,133.05	495.94
46	46.000	0.750	44.500			1,168.00	19.05	1,129.90	539.43
46	46.000	0.812	44.376			1,168.00	20.62	1,126.75	583.43
46	46.000	0.875	44.250			1,168.00	22.23	1,123.55	628.10
46	46.000	0.938	44.124			1,168.00	23.83	1,120.35	672.37
46	46.000	1.000	44.000			1,168.00	25.40	1,117.20	715.68
46	46.000	1.062	43.876			1,168.00	26.97	1,114.05	758.88
46	46.000	1.125	43.750			1,168.00	28.58	1,110.85	803.03
46	46.000	1.188	43.624			1,168.00	30.18	1,107.65	846.81
46	46.000	1.250	43.500			1,168.00	31.75	1,104.50	889.63
48	48.000	0.344	47.312			1,219.00	8.74	1,201.52	260.85
48	48.000	0.375	47.250	STD		1,219.00	9.53	1,199.95	284.24
48	48.000	0.406	47.188			1,219.00	10.31	1,198.38	307.30
48	48.000	0.438	47.124			1,219.00	11.13	1,196.75	331.52
48	48.000	0.469	47.062			1,219.00	11.91	1,195.17	354.52
48	48.000	0.500	47.000	XS		1,219.00	12.70	1,193.60	377.79
48	48.000	0.562	46.876			1,219.00	14.27	1,190.45	423.94
48	48.000	0.625	46.750			1,219.00	15.88	1,187.25	471.14
48	48.000	0.688	46.624			1,219.00	17.48	1,184.05	517.92
48	48.000	0.750	46.500		100	1,219.00	19.05	1,180.90	563.70
48	48.000	0.812	46.376			1,219.00	20.62	1,177.75	609.36
48	48.000	0.875	46.250			1,219.00	22.23	1,174.55	656.06
48	48.000	0.938	46.124			1,219.00	23.83	1,171.35	702.34
48	48.000	1.000	46.000		120	1,219.00	25.40	1,168.20	747.63
48	48.000	1.062	45.876			1,219.00	26.97	1,165.05	792.80
48	48.000	1.125	45.750			1,219.00	28.58	1,161.85	838.99
48	48.000	1.188	45.624			1,219.00	30.18	1,158.65	884.77
48	48.000	1.250	45.500		140	1,219.00	31.75	1,155.50	929.56
48	48.000	1.500	45.000		160	1,219.00	38.10	1,142.80	1,109.25
48	48.000	2.000	44.000	XXS		1,219.00	50.80	1,117.40	1,463.21
52	52.000	0.375	51.250			1,321.00	9.53	1,301.95	308.21
52	52.000	0.406	51.188			1,321.00	10.31	1,300.38	333.24
52	52.000	0.438	51.124			1,321.00	11.13	1,298.75	359.51
52	52.000	0.469	51.062			1,321.00	11.91	1,297.17	384.48
52	52.000	0.500	51.000	XS		1,321.00	12.70	1,295.60	409.64
52	52.000	0.562	50.876			1,321.00	14.27	1,292.45	459.84
52	52.000	0.625	50.750			1,321.00	15.88	1,289.25	511.09
52	52.000	0.688	50.624			1,321.00	17.48	1,286.05	561.89
52	52.000	0.750	50.500			1,321.00	19.05	1,282.90	611.62
52	52.000	0.812	50.376			1,321.00	20.62	1,279.75	661.23
52	52.000	0.875	50.250			1,321.00	22.23	1,276.55	711.98
52	52.000	0.938	50.124			1,321.00	23.83	1,273.35	762.28
52	52.000	1.000	50.000			1,321.00	25.40	1,270.20	811.52
52	52.000	1.062	49.876			1,321.00	26.97	1,267.05	860.63
52	52.000	1.125	49.750			1,321.00	28.58	1,263.85	910.88
52	52.000	1.188	49.624			1,321.00	30.18	1,260.65	960.68
52	52.000	1.250	49.500			1,321.00	31.75	1,257.50	1,009.42
56	56.000	0.375	55.250			1,422.00	9.53	1,402.95	331.94
56	56.000	0.406	55.188			1,422.00	10.31	1,401.38	358.91
56	56.000	0.438	55.124			1,422.00	11.13	1,399.75	387.24
56	56.000	0.469	55.062			1,422.00	11.91	1,398.17	414.14
56	56.000	0.500	55.000	XS		1,422.00	12.70	1,396.60	441.37

56	56.000	0.562	54.876			1,422.00	14.27	1,393.45	495.38
56	56.000	0.625	54.750			1,422.00	15.88	1,390.25	550.54
56	56.000	0.688	54.624			1,422.00	17.48	1,387.05	605.43
56	56.000	0.750	54.500			1,422.00	19.05	1,383.90	659.07
56	56.000	0.812	54.376			1,422.00	20.62	1,380.75	712.59
56	56.000	0.875	54.250			1,422.00	22.23	1,377.55	767.34
56	56.000	0.938	54.124			1,422.00	23.83	1,374.35	821.63
56	56.000	1.000	54.000			1,422.00	25.40	1,371.20	875.78
56	56.000	1.062	53.876			1,422.00	26.97	1,368.05	927.81
56	56.000	1.125	53.750			1,422.00	28.58	1,364.85	982.06
56	56.000	1.188	53.624			1,422.00	30.18	1,361.65	1,035.85
56	56.000	1.250	53.500			1,422.00	31.75	1,358.50	1,088.50
60	60.000	0.375	59.250			1,524.00	9.53	1,504.95	355.92
60	60.000	0.406	59.188			1,524.00	10.31	1,503.38	384.95

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	SPESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
60	60.000	0.438	59.124			1,524.00	11.13	1,501.75	415.23
60	60.000	0.469	59.062			1,524.00	11.91	1,500.17	444.10
60	60.000	0.500	59.000	XS		1,524.00	12.70	1,498.60	473.31
60	60.000	0.562	58.876			1,524.00	14.27	1,495.45	531.27
60	60.000	0.625	58.750			1,524.00	15.88	1,492.25	590.58
60	60.000	0.688	58.624			1,524.00	17.48	1,489.05	649.40
60	60.000	0.750	58.500			1,524.00	19.05	1,485.90	706.98
60	60.000	0.812	58.376			1,524.00	20.62	1,482.75	764.45
60	60.000	0.875	58.250			1,524.00	22.23	1,479.55	823.26
60	60.000	0.938	58.124			1,524.00	23.83	1,476.35	881.57
60	60.000	1.000	58.000			1,524.00	25.40	1,473.20	938.67
60	60.000	1.062	57.876			1,524.00	26.97	1,470.05	995.64
60	60.000	1.125	57.750			1,524.00	28.58	1,466.85	1,053.95
60	60.000	1.188	57.624			1,524.00	30.18	1,463.65	1,111.76
60	60.000	1.250	57.500			1,524.00	31.75	1,460.50	1,168.36
64	64.000	0.375	63.250			1,626.00	9.53	1,606.95	379.89
64	64.000	0.406	63.188			1,626.00	10.31	1,605.38	410.78
64	64.000	0.438	63.124			1,626.00	11.13	1,603.75	443.23
64	64.000	0.469	63.062			1,626.00	11.91	1,602.17	474.06
64	64.000	0.500	63.000	XS		1,626.00	12.70	1,600.60	505.26
64	64.000	0.562	62.876			1,626.00	14.27	1,597.45	567.16
64	64.000	0.625	62.750			1,626.00	15.88	1,594.25	630.52
64	64.000	0.688	62.624			1,626.00	17.48	1,591.05	693.36
64	64.000	0.750	62.500			1,626.00	19.05	1,587.90	754.90
64	64.000	0.812	62.376			1,626.00	20.62	1,584.75	816.32
64	64.000	0.875	62.250			1,626.00	22.23	1,581.55	879.17
64	64.000	0.938	62.124			1,626.00	23.83	1,578.35	941.51
64	64.000	1.000	62.000			1,626.00	25.40	1,575.20	1,002.56
64	64.000	1.062	61.876			1,626.00	26.97	1,572.05	1,063.48
64	64.000	1.125	61.750			1,626.00	28.58	1,568.85	1,125.83
64	64.000	1.188	61.624			1,626.00	30.18	1,565.65	1,187.67
64	64.000	1.250	61.500			1,626.00	31.75	1,562.50	1,248.23
68	68.000	0.469	67.062			1,727.00	11.91	1,703.17	503.72
68	68.000	0.500	67.000	XS		1,727.00	12.70	1,701.60	536.72
68	68.000	0.562	66.876			1,727.00	14.27	1,698.45	602.71
68	68.000	0.625	66.750			1,727.00	15.88	1,695.25	670.08
68	68.000	0.688	66.624			1,727.00	17.48	1,692.05	736.90
68	68.000	0.750	66.500			1,727.00	19.05	1,688.90	802.35
68	68.000	0.812	66.376			1,727.00	20.62	1,685.75	867.68
68	68.000	0.875	66.250			1,727.00	22.23	1,682.55	934.54
68	68.000	0.938	66.124			1,727.00	23.83	1,679.35	1,000.86
68	68.000	1.000	66.000			1,727.00	25.40	1,676.20	1,065.82
68	68.000	1.062	65.876			1,727.00	26.97	1,673.05	1,130.66

68	68.000	1.125	65.750			1,727.00	28.58	1,669.85	1,197.02
68	68.000	1.188	65.624			1,727.00	30.18	1,666.65	1,262.84
68	68.000	1.250	65.500			1,727.00	31.75	1,663.50	1,327.30
72	72.000	0.500	71.000	XS		1,829.00	12.70	1,803.60	568.83
72	72.000	0.562	70.876			1,829.00	14.27	1,800.45	638.60
72	72.000	0.625	70.750			1,829.00	15.88	1,797.25	710.02
72	72.000	0.688	70.624			1,829.00	17.48	1,794.05	780.87
72	72.000	0.750	70.500			1,829.00	19.05	1,790.90	850.29
72	72.000	0.812	70.376			1,829.00	20.62	1,787.75	919.54
72	72.000	0.875	70.250			1,829.00	22.23	1,784.55	990.46
72	72.000	0.938	70.124			1,829.00	23.83	1,781.35	1,060.80
72	72.000	1.000	70.000			1,829.00	25.40	1,778.20	1,129.71
72	72.000	1.062	69.876			1,829.00	26.97	1,775.05	1,198.49
72	72.000	1.125	69.750			1,829.00	28.58	1,771.85	1,268.91
72	72.000	1.188	69.624			1,829.00	30.18	1,768.65	1,338.75
72	72.000	1.250	69.500			1,829.00	31.75	1,765.50	1,407.17
76	76.000	0.500	75.000	XS		1,930.00	12.70	1,904.60	600.46
76	76.000	0.562	74.876			1,930.00	14.27	1,901.45	674.14
76	76.000	0.625	74.750			1,930.00	15.88	1,898.25	749.57
76	76.000	0.688	74.624			1,930.00	17.48	1,895.05	824.40
76	76.000	0.750	74.500			1,930.00	19.05	1,891.90	897.71
76	76.000	0.812	74.376			1,930.00	20.62	1,888.75	970.90
76	76.000	0.875	74.250			1,930.00	22.23	1,885.55	1,045.82

DIAMETRO NOMINAL	DIAMETRO EXTERIOR PULGADAS	ESPESOR DE PARED PULGADAS	DIAMETRO INTERIOR PULGADAS	STD/XS/XXS	CEDULA	DIAMETRO ERIOR MM	PESOR DE RED MM	DIAMETRO TERIOR MM	PESO / MTR
76	76.000	0.938	74.124			1,930.00	23.83	1,882.35	1,120.16
76	76.000	1.000	74.000			1,930.00	25.40	1,879.20	1,192.97
76	76.000	1.062	73.876			1,930.00	26.97	1,876.05	1,265.67
76	76.000	1.125	73.750			1,930.00	28.58	1,872.85	1,340.09
76	76.000	1.185	73.630			1,930.00	30.10	1,869.80	1,413.92
76	76.000	1.250	73.500			1,930.00	31.75	1,866.50	1,486.24
80	80.000	0.562	78.876			2,032.00	14.27	2,003.45	710.04
80	80.000	0.625	78.750			2,032.00	15.88	2,000.25	789.51
80	80.000	0.688	78.624			2,032.00	17.48	1,997.05	868.37
80	80.000	0.75	78.500			2,032.00	19.05	1,993.90	945.63
80	80.000	0.812	78.376			2,032.00	20.62	1,990.75	1,022.76
80	80.000	0.875	78.250			2,032.00	22.23	1,987.55	1,101.74
80	80.000	0.938	78.124			2,032.00	23.83	1,984.35	1,180.10
80	80.000	1.000	78.000			2,032.00	25.40	1,981.20	1,256.86
80	80.000	1.062	77.876			2,032.00	26.97	1,978.05	1,333.50
80	80.000	1.125	77.750			2,032.00	28.58	1,974.85	1,411.97
80	80.000	1.188	77.624			2,032.00	30.18	1,971.65	1,489.83
80	80.000	1.250	77.500			2,032.00	31.75	1,968.50	1,566.11

PRINCIPALES NORMAS APLICABLES A TUBERIA DE ACERO AL CARBON

A S T M A106

AMERICAN SOCIETY FOR TESTING AND MATERIALS / SOCIEDAD AMERICANA PARA PUEBAS Y MATERIALES

Tubería bajo esta especificación se suministran en diámetros desde 1/8 pulgadas (3.18mm) a 48 pulgadas (1,219.20mm) de espesor de pared nominal (promedio) de acuerdo al ANSI B 36.10. Los tubos ordenados bajo esta norma son adecuados para soldarse, también son apropiados para someterse a operaciones de conformado que incluyen dobleces o embrionados.

A S T M A53

AMERICAN SOCIETY FOR TESTING AND MATERIALS / SOCIEDAD AMERICANA PARA PUEBAS Y MATERIALES

La Tubería bajo esta especificación se suministra sin costura y soldada con acabado superficial negro y galvanizado en caliente en diámetros desde 1/8 pulgadas (3.18 mm) a 26 pulgadas (660.40mm).
La tubería A-53 están destinada a aplicaciones mecánicas y de presión y también es aceptable para usos ordinarios en la conducción de vapor, agua, gas, y las líneas de aire. Este tipo de tubería es apta para ser soldada, así como para operaciones de formado tales como enrollado, plegado, y abridamiento.

A P I 5L

AMERICAN PETROLEO INSTITUTE / INSTITUTO AMERICANO DEL PETROLEO

Norma internacional que especifica los requerimientos para la fabricación de dos niveles de especificación del producto, que son **PSL 1** y **PSL 2**, de tubos de acero con y sin costura utilizados para sistemas de transportación en la industria del petróleo, gas, agua, aceite y gas natural.
Los tubos **PSL 1** se fabrican en los siguientes grados: A25, A, B, X42, X46, X52, X56, X60, X65, X70 (el numero multiplicado por 1000 indica la presión que resiste el tubo antes de deformarse y está dado en lb/pulgadas, ejemplo: X42 resiste 42000 lb/pulg) en tamaños nominales de ¼" hasta 84".
Los tubos **PSL 2** se ordenan bajo los siguientes grados: B, X42, X46, X52, X56, X60, X65, X70, X80, en tamaños nominales de 4 ½" hasta 84".

N A C E MR0175

NATIONAL ASSOCIATION OF CORROSION ENGINEERS / ASOCIACION NACIONAL DE INGENIEROS EN CORROSION

Esta norma define los requisitos o requerimientos para la selección de material resistentes a la fisuración baja tenciones por sulfuros (corrosión acida) empleados en operaciones petroleras, que involucren la presencia de acido sulfhídrico.

N M X-B 177

NORMA MEXICANA PARA TUBOS DE ACERO CON O SIN COSTURA, NEGROS Y GALVANIZADOS POR INMERSION EN CALIENTE

Establece los requerimientos que deben cumplir los tubos de acero con y sin costura, negros o galvanizados por el proceso de inmersión en caliente, en tamaños nominales de 1/8" hasta 26". Los tubos que son ordenados bajo esta norma son adecuados para soldarse, también son apropiados para someterse a operaciones de formado que incluyes serpentines, dobleces o pestañados.

Q U E E S U N A C O L A D A ?

Es el proceso mediante el cual se verte metal fundido sobre un molde para obtener piezas.
Está constituida por todo el acero obtenido cada vez que se vacía el horno de fusión, cada colada como unidad de control, tiene un número de referencia (num.colada) con el que se identifica todo el material que procede de la misma.
El número de colada permite rastrear todos los procesos de fabricación que ha sufrido el material, incluyendo los parámetros más importantes de producción; composición química, propiedades mecánicas acabado superficial, etc.