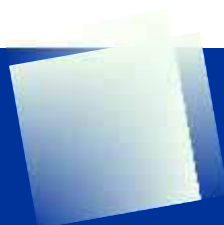




Aceros Inoxidables Fitzner S.A.

CATALOGO

Aceros Inoxidables Fitzner S.A.
AV. Andres Rolon 2341
(B1643BOK) Beccar - Buenos Aires - Argentina
TEL: (+54 11) 4743-5818 / 4747-0647 / 2991
aif@acerosfitzner.com.ar
<http://www.acerosfitzner.com.ar>



El creciente avance tecnológico de la industria de proceso demanda materiales que respondan a niveles económicos de operación con mayor producción y elevado nivel de confiabilidad de sus equipos.

Fiel a una larga tradición profesional, basada en el respeto por la calidad, **ACEROS INOXIDABLES FITZNER S.A.** provee caños, tubos y accesorios para una amplia gama de aplicaciones como ser:

- **ASTILLEROS.**
- **ENERGIA NUCLEAR.**
- **GENERACION DE ENERGIA.**
- **INDUSTRIA ALIMENTICIA.**
- **INDUSTRIA DE CELULOSA Y PAPEL.**
- **INDUSTRIA DEL ALCOHOL Y AZUCAR.**
- **INDUSTRIA FARMACEUTICA.**
- **INDUSTRIA PETROQUIMICA.**
- **INDUSTRIA QUIMICA.**
- **INDUSTRIA TEXTIL.**
- **MINERIA.**
- **PLANTAS DE EXTRACCION DE ACEITE.**
- **PLANTAS DE TRATAMIENTO DE AGUAS Y EFLUENTES.**
- **PRODUCCION DE GAS.**
- **REFINERIAS DE PETROLEO.**
- **SIDERURGIA.**

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CAÑOS DE ACERO INOXIDABLE ASTM A-312



ANSI B16.39

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO NOMINAL EN MILIMETROS	SCH 5S		SCH 10S		SCH 40S		SCH 80S		SCH XXS	
		ESPESOR EN MM	PESO KG/MT	ESPESOR EN MM	PESO KG/MT	ESPESOR EN MM	PESO KG/MT	ESPESOR EN MM	PESO KG/MT	ESPESOR EN MM	PESO KG/MT
1/8"	10.29	-	-	1.24	0.290	1.73	0.390	2.41	0.500	-	-
1/4"	13.72	-	-	1.65	0.510	2.24	0.670	3.02	0.840	-	-
3/8"	17.15	-	-	1.65	0.660	2.31	0.880	3.20	1.150	-	-
1/2"	21.34	1.65	0.836	2.11	1.045	2.77	1.326	3.70	1.690	7.47	2.690
3/4"	26.67	1.65	1.057	2.11	1.328	2.87	1.751	3.90	2.280	7.82	3.790
1"	33.40	1.65	1.336	2.77	2.166	3.38	2.591	4.55	3.350	9.09	5.650
1 1/4"	42.16	1.65	1.700	2.77	2.775	3.56	3.497	4.85	4.600	9.70	8.020
1 1/2"	48.26	1.65	1.953	2.77	3.200	3.68	4.167	5.08	5.570	10.15	9.830
2"	60.33	1.65	2.453	2.77	4.040	3.91	5.591	5.54	7.680	11.07	13.830
2 1/2"	73.03	2.11	3.786	3.05	5.340	5.16	8.864	7.01	11.700	14.02	20.950
3"	88.90	2.11	4.628	3.05	6.537	5.49	11.575	7.62	15.640	15.24	28.380
3 1/2"	101.60	2.11	5.300	3.05	7.495	5.74	13.898	8.08	19.070	-	-
4"	114.30	2.11	5.975	3.05	8.452	6.02	16.400	8.56	22.830	17.12	41.990
5"	141.30	2.77	9.677	3.40	11.825	6.55	22.261	9.53	31.620	19.05	58.720
6"	168.28	2.77	11.556	3.40	14.130	7.11	28.885	10.97	43.480	21.95	80.940
8"	219.08	2.77	15.092	3.76	20.393	8.18	43.456	12.70	65.990	22.23	110.180
10"	273.05	3.40	23.083	4.19	28.363	9.27	61.567	12.70 ^b	83.200	25.40	158.310
12"	323.85	3.96	31.885	4.57	36.726	9.53 ^b	75.322	12.70 ^b	99.410	25.40	190.720
14"	355.60	3.96	35.045	4.78	42.200	9.53 ^b	82.920	-	-	-	-
16"	406.40	4.19	42.406	4.78	48.306	9.53 ^b	95.075	-	-	-	-
18"	457.20	4.19	47.755	4.78	54.410	9.53 ^b	107.230	-	-	-	-
20"	508.00	4.78	60.512	5.54	70.030	9.53 ^b	119.383	-	-	-	-
22"	558.80	4.78	66.615	5.54	77.100	9.53 ^b	131.537	-	-	-	-
24"	609.60	5.54	84.173	6.35	96.350	9.53 ^b	143.642	-	-	-	-
30"	762.00	6.35	120.673	7.92	150.196	9.53 ^b	180.156	-	-	-	-

SIN COSTURA HASTA 10"

a) Espesores schedule 5S y 10S no admiten ser roscados acorde a ANSI B 1.20.1.

b) Schedules no acorde a ANSI B 36.10.

Los espesores de pared indicados, son nominales y están sujetos a variación de hasta -12% por tolerancias de laminación.

TUBOS DE ACERO INOXIDABLE , ASTM A-269

DIAMETRO EXTERIOR EN PULGADAS	DIAMETRO EXTERIOR EN MILIMETROS	ESPESOR EN MILIMETROS									
		0.8	0.9	1.0	1.25	1.50	2.0	3.0	4.0	5.0	
1/2"	12.70	0.249	0.278	0.306	0.375	0.440					
5/8"	15.87	0.312	0.334	0.386	0.474	0.559					
3/4"	19.05	0.376	0.405	0.465	0.553	0.679	0.881				
7/8"	22.20	0.440	0.492	0.545	0.673	0.798	1.040				
1"	25.40	0.504	0.564	0.625	0.773	0.919	1.200				
1 1/8"	28.58	0.568	0.636	0.705	0.873	1.038	1.359	1.964			
1 1/4"	31.75	0.631	0.708	0.784	0.973	1.158	1.518	2.203			
1 1/2"	38.10		0.852	0.944	1.172	1.397	1.837	2.681			
1 3/4"	44.50		0.995	1.103	1.371	1.636	2.157	3.160			
2"	50.80			1.263	1.571	1.875	2.476	3.645			
2 1/2"	63.50				1.970	2.354	3.114	4.615			
3"	76.20					2.832	3.752	5.585	7.302		
4"	101.60					3.800	5.028	7.525	9.855	12.193	
5"	127.00						6.304	9.380	12.407	15.383	
6"	152.40						7.580	11.295	14.959	18.573	
8"	203.20						10.130	15.123	20.063	24.954	
10"	254.00						12.684	18.951	25.168	31.334	
12"	304.80							22.780	30.780	37.715	

SIN COSTURA HASTA 2"

TUBOS DE ACERO INOXIDABLE , ASTM A-249/ A-213

Tubos de Acero Inoxidable con costura A-249

DIAMETRO EXTERIOR EN PULGADAS	DIAMETRO EXTERIOR EN MILIMETROS	B.W.G.				
		22	20	18	16	14
		ESPESOR DE PARED EN MILIMETROS				
		0.76	0.89	1.24	1.65	2.11
3/4"	19.05	0.348	0.405	0.553	0.719	0.895
1"	25.40	0.469	0.546	0.750	0.981	1.231
1 1/4"	31.75			0.949	1.246	1.569
1 1/2"	38.10			1.144	1.506	1.902
1 3/4"	44.50			1.342	1.768	2.237
2"	50.80			1.539	2.031	2.573
2 1/2"	63.50				2.555	3.244
3"	76.20				3.080	3.915
4"	101.60				4.130	5.256

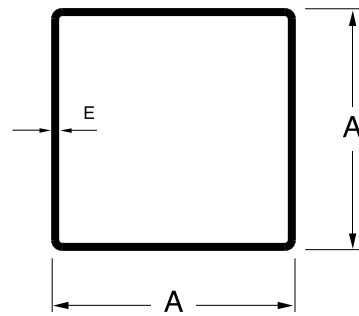
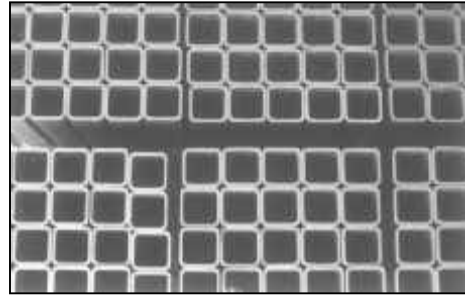
Tubos de Acero Inoxidable sin costura A-213

DIAMETRO EXTERIOR EN PULGADAS	DIAMETRO EXTERIOR EN MILIMETROS	B.W.G.		
		20	18	16
		ESPESOR DE PARED EN MILIMETROS		
		0.89	1.24	1.65
1/4"	6.35	0.122	0.160	0.190
5/16"	7.94	0.157	0.210	0.260
3/8"	9.53	0.192	0.260	0.330
1/2"	12.70	0.260	0.360	0.460
5/8"	15.87		0.450	0.590

Números en casilleros grisados = peso en kilogramos por metro lineal.

TUBOS DE ACERO INOXIDABLE DE SECCION CUADRADA, ASTM A-554

A mm.	A mm.	ESPESOR mm.	PESO kg/m
20.00	20.00	1.50	0.900
25.00	25.00	1.50	1.140
30.00	30.00	1.50	1.379
30.00	30.00	2.00	1.813
35.00	35.00	1.50	1.618
35.00	35.00	2.00	2.132
40.00	40.00	1.50	1.857
40.00	40.00	2.00	2.451
45.00	45.00	1.50	2.097
45.00	45.00	2.00	2.770
50.00	50.00	1.50	2.336
50.00	50.00	2.00	3.089
60.00	60.00	2.00	3.727
60.00	60.00	3.00	5.516
70.00	70.00	2.00	4.365
70.00	70.00	3.00	6.473
80.00	80.00	2.00	5.003
80.00	80.00	3.00	7.430
100.00	100.00	2.00	6.279
100.00	100.00	3.00	9.343
100.00	100.00	5.00	15.322



TUBOS DE ACERO INOXIDABLE DE SECCION RECTANGULAR ASTM A-554

A mm.	B mm.	ESPESOR mm.	PESO kg/m
20.00	10.00	1.50	0.661
25.00	15.00	1.50	0.900
30.00	15.00	1.50	1.020
30.00	20.00	1.50	1.140
40.00	20.00	1.50	1.379
40.00	30.00	1.50	1.618
50.00	30.00	1.50	1.857
50.00	30.00	2.00	2.451
60.00	40.00	2.00	3.089
80.00	60.00	2.00	4.365
80.00	60.00	3.00	6.473
100.00	60.00	2.00	5.003



ACEROS INOXIDABLES (CUADRO COMPARATIVO)

DENOMINACION	COMPOSICION QUIMICA %										DENOMINACIONES COMUNES							MATERIAL DE SOLDADURA SUGERIDO
	C	N	Cr	Ni	Mo	Otros	ASTM	EN	BS	DIN	NF	SS						
FERRITICO	0.02	-	12	-	-	Ti	409	1.4512	409S19	1.4512	Z3 CT 12	-	P5					
	0.02	-	11.5	0.4	-	-	S41050	1.4003	-	1.4003	-	-	P5					
	0.04	-	12	-	-	-	410S	1.4000	403S17	1.4000	Z8 C12	2301	739 S					
	0.04	-	16.5	-	-	-	430	1.4016	430S17	1.4016	Z8 C17	2320	P5					
	0.20	-	13	-	-	-	S42010	1.4021	420S29	1.4021	Z20 C13	2303	739 S					
	0.30	-	12.5	-	-	-	420	1.4028	420S45	1.4028	Z33 C13	2304	739-S					
	0.03	0.04	16	5	1	-	-	1.4418	-	1.4418	Z6 CND.16-05-01	2387	248 SV					
	0.02	0.10	23	4.5	-	-	S32304	1.4362	-	1.4362	Z3 CN 23-04 Az	2327	2304					
	0.02	0.17	22	5.5	3	-	S31803	1.4462	318S13	1.4462	Z3 CND 22-05 Az	2377	2205					
	0.02	0.27	25	7	4	-	S32750	1.4410	-	-	Z3 CND 25-06 Az	2328	2507 / P100					
	0.05	0.15	17	5	-	Mn	201	1.4372	-	-	Z12 CMN 17-07 Az	-	-					
	0.10	0.04	17	7	-	-	301	1.4310	301S21	1.4310	Z11 CN 18-08	2331	-					
	0.02	0.06	18.3	9.2	-	-	304L	1.4307	304S11	-	Z3 CN 18-10	2352	308L/MVR					
	0.02	0.06	18.3	10.2	-	-	304L	1.4306	304S11	1.4306	Z3 CN 18-10	2352	308L/MVR					
	0.04	0.06	18.3	8.7	-	-	304	1.4301	304S31	1.4301	Z7 CN 18-09	2333	308L/MVR					
0.02	0.14	18.3	8.7	-	-	304LN	1.4311	304S61	1.4311	Z3 CN 18-10 Az	2371	308L/MVR						
0.04	0.01	17.3	9.2	-	Ti	321	1.4541	321S31	1.4541	Z6 CNT 18-10	2337	308L/MVR						
0.07	0.06	18	8.5	-	S	303	1.4305	303S31	1.4305	Z6 CNF 18-09	2346	-						
0.01	0.02	18	9	-	Cu	S30430	1.4567	-	1.4567	Z3 CNU 18-09 FF	-	-						
0.04	0.04	18.5	11.5	-	-	305	1.4303	305S19	1.4303	Z1 CN 18-12	-	-						
0.02	0.06	17.3	11	2.2	-	316L	1.4404	316S11	1.4404	Z3 CND 17-11-02	2348	316L/SKR						
0.04	0.04	16.8	10.7	2.2	-	316	1.4401	316S31	1.4401	Z7 CND 17-11-02	2347	316L/SKR						
0.02	0.14	17.5	11	2.2	-	316LN	1.4406	316S61	1.4406	Z3 CND 17-11 Az	-	316L/SKR						
0.04	0.01	17	11	2.2	-	316Ti	1.4571	320S31	1.4571	Z6 CNDT 17-12	2350	316L/SKR						
0.02	0.06	17	11.7	2.7	-	316L	1.4432	316S13	-	Z3 CND 17-11-03	2353	316L/SKR						
0.02	0.06	17.3	12.7	2.7	-	316L	1.4435	316S13	1.4435	Z3 CND 18-14-03	2353	316L/SKR						
0.04	0.06	17	11	2.7	-	316	1.4436	316S33	1.4436	Z7 CND 18-12-03	2343	316L/SKR						
0.02	0.08	18.3	12.2	3.2	-	317L	1.4438	317S12	1.4438	Z3 CND 19-15-04	2367	317L/SKR						
0.02	0.10	17	11	3.2	-	317LN	1.4434	-	-	Z3 CND 19-14 Az	2373	317L/SKR						
0.02	0.14	17.3	12.7	4.2	-	S31726	1.4439	-	1.4439	Z3 CND 18-14-05 Az	-	SLR-NF						
0.01	0.06	20	25	4.5	Cu	N08904	1.4539	904S13	1.4539	Z2 NCDU 25-20	2562	904L						
0.01	0.20	20	18	6.1	Cu	S31254	1.4547	-	-	-	2378	P12						
0.01	0.50	24	22	7.3	Mn, Cu	S32654	1.4652	-	-	-	-	P16						
0.05	0.06	18.3	8.7	-	-	304H	1.4948	304S51	1.4948	Z6 CN 18-09	2333	308						
0.05	0.01	17.3	9.2	-	Ti	321H	1.4478	321S51	1.4478	Z6 CNT 18-10	2337	347/MVNb						
0.06	0.08	22.5	12.5	-	-	309S	1.4833	309S16	1.4833	Z15 CN 24-13	-	309						
0.04	0.04	20	12	-	Si	-	1.4828	-	1.4828	Z17 CNS 20-12	-	253 MA						
0.05	0.06	25	20	-	-	310S	1.4845	310S16	1.4845	Z8 CN 25-20	2361	310						
0.05	0.15	18.5	9.5	-	Si, Ce	S30415	1.48xx	-	1.4891	-	2372	253 MA						
0.09	0.17	21	11	-	Si, Ce	S30815	1.4835	-	1.4893	-	2368	253 MA						
0.05	0.15	25	35	-	Si, Ce	S35315	1.48xx	-	-	-	-	353 MA						

♦ Marcas Registradas por Avesta Sheffield AB.
SAF 2304 y SAF 2507 son Marcas Registradas por Sandvik Steel AB

CAÑOS DE ACERO INOXIDABLE - AISI 304

TABLA DE PRESION DE TRABAJO ADMISIBLE EN Kg/cm² PARA TEMPERATURAS DE TRABAJO ABAJO INDICADAS, SIN SOBRESPESOR PARA CORROSION NI ESFUERZO MECANICO

DIAMETRO NOMINAL DEL CAÑO	SCH. S NY	ESPESOR DE PARED EN mm.	TEMPERATURAS DE TRABAJO QUE NO EXCEDAN DE:											
			29-38°C 20-100°F	93°C 200°F	204°C 400°F	260°C 500°F	316°C 600°F	399°C 750°F	482°C 900°F	593°C 1100°F	650°C 1200°F	704°C 1300°F	760°C 1400°F	816°C 1500°F
			PRESIONES DE TRABAJO ADMISIBLES EN Kg SOBRE cm ²											
1/2"	5	1.65	161	142	117	107	99	89	80	65	40	21	12	6.7
	10	2.1	208	185	151	139	129	116	104	85	53	28	16	8.7
	40	2.8	329	292	239	220	203	182	165	135	85	47	26	14
	80	3.75	460	409	335	307	287	255	231	191	123	67	38	20
3/4"	5	1.65	127	113	91	85	78	71	64	51	31	17	9.7	5.2
	10	2.1	164	146	119	109	102	91	82	66	41	22	12	6.8
	40	2.9	268	239	195	179	166	149	135	109	69	38	21	11
	80	3.9	377	335	275	251	233	209	189	155	99	54	30	16
1"	5	1.65	100	89	73	67	62	56	50	40	24	13	7.6	4
	10	2.8	173	153	125	115	106	96	86	70	43	23	13	7.2
	40	3.4	251	223	182	168	155	140	126	102	64	34	19	10
	80	4.5	347	308	253	232	215	192	174	142	90	49	28	15
1 1/4"	5	1.65	79	70	57	52	49	44	40	31	19	10	6	3.2
	10	2.1	135	120	98	90	83	75	68	54	33	18	10	5.6
	40	3.5	207	184	151	138	128	115	104	84	52	28	16	8.6
	80	4.9	289	256	210	192	178	160	144	118	74	40	23	12
1 1/2"	5	1.65	69	61	50	46	42	38	34	27	16	9.1	5.2	2.7
	10	2.8	117	104	85	78	73	65	59	47	29	15	9	4.8
	40	3.7	186	172	135	124	115	103	93	76	47	25	14	7.7
	80	5	262	233	191	175	162	145	131	107	67	36	20	11
2"	5	1.65	54	49	40	36	33	30	27	22	13	7.2	4.2	2.2
	10	2.8	93	83	68	62	57	52	47	38	22	12	7.1	3.7
	40	4	156	139	114	104	97	87	78	64	39	21	12	6.4
	80	5.5	226	201	165	151	140	125	114	92	57	31	17	9.5
2 1/2"	5	2.1	58	51	42	38	35	32	29	23	14	7.6	4.4	2.3
	10	3	84	75	61	56	52	47	42	34	20	11	6.3	3.4
	40	5.5	171	152	125	114	106	95	86	69	42	23	13	7.1
	80	7	237	211	173	159	147	132	119	97	60	32	18	10
3"	5	2.1	47	42	34	31	29	26	23	19	11	6.2	3.5	1.9
	10	3	69	61	50	46	42	38	34	27	16	9.2	5.2	2.8
	40	5.5	149	132	109	99	92	83	75	60	37	20	11	6.1
	80	7.65	211	187	153	140	130	116	105	85	53	28	16	8.8
3 1/2"	5	2.1	41	37	30	27	25	23	20	16	10	5.4	3.1	1.6
	10	3	62	53	44	40	37	33	30	24	14	8	4.5	2.4
	40	5.75	135	121	99	90	84	76	68	54	33	18	10	5.6
	80	8.1	194	173	142	130	120	108	97	79	49	26	15	8.1
4"	5	2.1	37	32	26	24	22	20	18	14	8.8	4.8	2.7	1.4
	10	3	53	47	39	35	33	29	26	21	13	7.1	4	2.1
	40	6	126	112	92	84	78	70	63	51	31	17	9.7	5.2
	80	8.6	182	162	132	121	113	101	91	74	45	24	14	7.5
5"	5	2.8	39	34	28	26	24	21	19	15	9.4	5.1	2.8	1.5
	10	3.5	48	42	35	32	29	26	24	19	11	6.3	3.6	1.9
	40	6.5	111	98	80	73	69	62	55	45	27	14	8.4	4.5
	80	9.5	163	145	118	109	101	90	82	66	40	22	12	6.7
6"	5	2.8	32	29	23	21	20	18	16	13	7.9	4.3	2.4	1.3
	10	3.5	40	35	29	26	24	22	20	16	9.7	5.2	3	1.6
	40	7.1	100	89	73	67	62	56	50	40	24	13	7.6	4.1
	80	11	158	140	115	105	97	87	79	64	39	21	12	6.5
8"	5	2.8	25	22	18	16	15	14	12	10	6	3.3	1.8	0.9
	10	3.75	34	30	24	22	21	19	17	13	8.2	4.4	2.5	1.3
	40	8.2	88	78	64	59	54	49	45	35	21	11	6.7	3.5
	80	12.7	140	124	102	93	86	77	70	57	34	18	10	5.7
10"	5	3.4	24	21	18	16	15	13	12	9.8	5.9	3.2	1.8	0.9
	10	4.2	30	27	22	20	18	16	15	12	7.3	4	2.3	1.1
	40	9.3	80	71	59	54	50	45	40	32	19	10	6.1	3.2
	80	12.7	111	99	80	74	69	61	56	45	27	14	8.5	4.5
12"	5	4	25	22	18	17	15	14	12	10	6.1	3.3	1.9	1
	10	4.5	28	24	20	18	17	15	14	11	6.8	3.6	2.1	1.1
	40	9.5	69	61	50	46	42	38	34	27	16	9.2	5.2	2.8
	80	12.7	93	83	68	62	57	52	47	38	22	12	7.1	3.7

En las presiones mayores de 10 Kg./cm² se han redondeado las fracciones en la forma siguiente: menores de 0.9 Kg/cm² son eliminadas desde 0.9 Kg/cm² a una unidad.

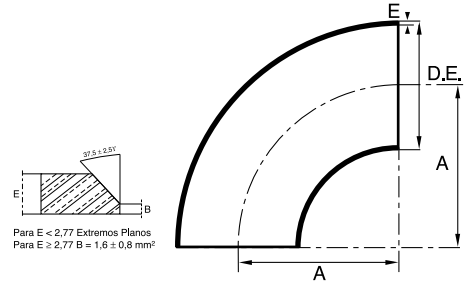
CAÑOS DE ACERO INOXIDABLE - AISI 316

TABLA DE PRESION DE TRABAJO ADMISIBLE EN Kg/cm² PARA TEMPERATURAS DE TRABAJO ABAJO INDICADAS, SIN SOBRESPESOR PARA CORROSION NI ESFUERZO MECANICO

DIAMETRO NOMINAL DEL CAÑO	SCH. S N ^o	ESPESOR DE PARED EN mm.	TEMPERATURAS DE TRABAJO QUE NO EXCEDAN DE:											
			29 - 38°C 20 - 100°F	93°C 200°F	204°C 400°F	260°C 500°F	316°C 600°F	399°C 750°F	482°C 900°F	593°C 1100°F	650°C 1200°F	704°C 1300°F	760°C 1400°F	816°C 1500°F
			PRESIONES DE TRABAJO ADMISIBLES EN Kg SOBRE cm ²											
1/2"	5	1.65	161	161	149	147	147	144	137	90	61	35	21	13
	10	2.1	208	208	194	191	189	187	177	118	80	47	27	17
	40	2.8	329	329	308	302	301	297	281	187	129	76	45	28
	80	3.75	460	460	429	422	419	414	393	265	187	109	64	41
3/4"	5	1.65	127	127	118	116	116	114	108	71	47	28	16	10
	10	2.1	164	164	153	151	149	148	140	92	62	37	21	13
	40	2.9	268	268	251	246	245	242	229	152	104	61	35	22
	80	3.9	377	377	352	346	344	340	322	215	149	88	52	33
1"	5	1.65	100	100	94	92	92	90	85	56	38	22	13	8.2
	10	2.8	173	173	161	159	157	156	147	97	66	38	22	14
	40	3.4	251	251	234	230	229	226	214	142	97	57	33	21
	80	4.5	347	347	324	318	317	312	296	198	137	80	47	30
1 1/4"	5	1.65	79	79	73	72	72	71	67	44	29	17	10	6.3
	10	2.1	135	135	126	124	123	121	115	76	51	29	17	11
	40	3.5	207	207	193	189	189	187	176	116	78	46	27	17
	80	4.9	289	289	270	265	263	260	246	163	112	66	39	24
1 1/2"	5	1.65	69	69	64	63	63	62	59	38	25	15	8.7	5.6
	10	2.8	117	117	109	107	106	106	100	66	44	25	15	9.7
	40	3.7	186	186	173	170	170	168	159	104	71	41	24	15
	80	5	262	262	244	240	239	237	224	148	101	59	35	22
2"	5	1.65	54	54	51	50	50	50	47	30	20	11	6.9	4.4
	10	2.8	93	93	87	85	85	84	79	52	34	20	12	7.5
	40	4	156	156	146	144	143	141	134	88	59	34	20	13
	80	5.5	226	226	211	208	206	204	193	128	87	51	29	19
2 1/2"	5	2.1	58	58	54	53	52	52	50	32	21	12	7.3	4.7
	10	3	84	84	78	77	77	76	72	47	31	18	10	6.8
	40	5.5	171	171	160	157	156	154	146	96	64	38	22	14
	80	7	237	237	222	218	215	214	203	134	91	54	31	20
3"	5	2.1	47	47	44	43	43	42	40	26	17	10	5.9	3.7
	10	3	69	69	64	63	63	62	59	38	25	15	8.7	5.6
	40	5.5	149	149	139	137	135	134	127	83	56	32	19	12
	80	7.65	211	211	196	193	192	189	180	118	80	47	27	17
3 1/2"	5	2.1	41	41	38	38	38	37	35	23	15	8.8	5.2	3.3
	10	3	60	60	56	55	55	54	51	33	22	13	7.5	4.8
	40	5.75	135	135	127	125	123	122	116	76	51	29	17	11
	80	8.1	194	194	181	178	177	175	166	109	73	43	25	16
4"	5	2.1	37	37	34	33	33	33	31	20	13	7.9	4.6	2.9
	10	3	53	53	50	49	49	48	45	29	19	11	6.8	4.3
	40	6	126	126	118	116	115	114	108	71	47	27	16	10
	80	8.6	182	182	170	167	166	164	156	102	69	40	23	15
5"	5	2.8	39	39	36	35	35	35	33	21	14	8.3	4.9	3.1
	10	3.5	48	48	45	44	44	43	41	26	17	10	6.1	3.8
	40	6.5	111	111	103	102	101	99	95	61	41	24	14	9
	80	9.5	163	163	152	149	149	147	140	92	61	36	21	13
6"	5	2.8	32	32	31	30	29	29	27	18	12	7	4	2.6
	10	3.5	40	40	38	37	37	36	34	22	14	8.6	5	3.3
	40	7.1	100	100	94	92	92	90	85	56	37	22	12	8.2
	80	11	158	158	147	144	144	142	135	88	59	34	20	13
8"	5	2.8	25	25	23	23	22	22	21	14	9.1	5.3	3.1	2
	10	3.75	34	34	31	31	31	30	29	19	12	7.3	4.3	2.7
	40	8.2	88	88	83	81	80	80	76	50	32	19	11.5	7.2
	80	12.7	140	140	130	128	127	125	119	78	52	30	18	11.6
10"	5	3.4	24	24	23	22	22	22	21	13	9	5.2	3.1	2
	10	4.2	30	30	28	28	27	27	26	17	11	6.6	3.7	2.4
	40	9.3	80	80	75	73	73	72	69	45	29	17	10	6.5
	80	12.7	111	111	104	102	101	100	95	62	41	24	14	9
12"	5	4	25	25	24	23	23	23	21	14	9.3	5.5	3.2	2.1
	10	4.5	28	28	26	25	25	25	23	15	10	5.9	3.5	2.2
	40	9.5	69	69	64	64	63	62	59	38	25	15	8.7	5.6
	80	12.7	93	93	87	85	85	84	79	52	34	20	11	7.5

En las presiones mayores de 10 Kg./cm² se han redondeado las fracciones en la forma siguiente: menores de 0.9 Kg/cm² son eliminadas desde 0.9 Kg/cm² a una unidad.

CODOS DE ACERO INOXIDABLE ASTM A-403 (90° R.L.)



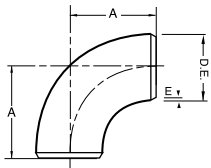
Diámetro Nominal	D.E. mm	A mm	E		Peso en Kg.
			SCH	mm	
1/2"	21.34	38	5S	1.65	0.04
			10S	2.11	0.06
			40S	2.77	0.08
			80S	3.70	0.10
3/4"	26.67	38	5S	1.65	0.04
			10S	2.11	0.06
			40S	2.87	0.09
			80S	3.90	0.11
1"	33.40	38	5S	1.65	0.08
			10S	2.77	0.13
			40S	3.38	0.16
			80S	4.55	0.22
1 1/4"	42.16	48	5S	1.65	0.12
			10S	2.77	0.21
			40S	3.56	0.25
			80S	4.85	0.42
1 1/2"	48.30	57	5S	1.65	0.17
			10S	2.77	0.29
			40S	3.68	0.40
			80S	5.08	0.53
2"	60.30	76	5S	1.65	0.28
			10S	2.77	0.49
			40S	3.91	0.71
			80S	5.54	1.05
2 1/2"	73.00	95	5S	2.11	0.55
			10S	3.05	0.83
			40S	5.16	1.36
			80S	7.01	1.76

Diámetro Nominal	D.E. mm	A mm	E		Peso en Kg.
			SCH	mm	
3"	88.90	114	5S	2.11	0.78
			10S	3.05	1.21
			40S	5.49	2.18
			80S	7.62	3.08
3 1/2"	101.60	133	5S	2.11	1.19
			10S	3.05	1.70
			40S	5.74	2.83
4"	114.30	152	5S	2.11	1.33
			10S	3.05	2.10
			40S	6.02	4.17
			80S	8.56	5.87
5"	141.30	190	5S	2.77	2.95
			10S	3.40	3.63
			40S	6.55	6.86
			80S	9.53	9.13
6"	168.30	229	5S	2.77	4.05
			10S	3.40	5.20
			40S	7.11	10.90
			80S	10.97	18.02
8"	219.1	305	5S	2.77	7.00
			10S	3.76	10.10
			40S	8.18	21.50
			80S	12.70	35.70
10"	273.0	381	5S	3.40	13.20
			10S	4.19	17.50
			40S	9.27	38.60
			80S	12.70	54.83

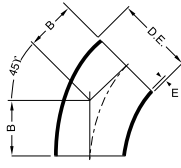
Diámetro Nominal	D.E. mm	A mm	E		Peso en Kg.
			SCH	mm	
12"	323.9	457	5S	3.96	23.50
			10S	4.57	27.00
			40S	9.53	59.40
			80S	12.70	83.37
14"	355.6	533	5S	3.96	30.00
			10S	4.78	36.30
			Std	9.53	70.30
16"	406.4	610	5S	4.19	40.80
			10S	4.78	47.50
			Std	9.53	91.60
18"	457.2	686	5S	4.19	51.80
			10S	4.78	58.60
			Std	9.53	122.0
20"	508.0	762	5S	4.78	72.00
			10S	5.54	84.00
			Std	9.53	149.70
24"	609.6	914	5S	5.54	127.00
			10S	6.35	141.00
			Std	9.53	211.00
28"	711.2	1067	10S	7.92	234.00
			Std	9.53	280.00
30"	762.0	1143	10S	7.92	271.00
			Std	9.53	326.00
32"	812.8	1219	10S	7.92	308.00
			Std	9.53	370.00
36"	914.4	1372	10S	7.92	390.00
			Std	9.53	468.00
40"	1016.0	1524	min	5.0	304.00
			max	22.0	1316.00
44"	1117.6	1676	min	6.0	441.00
			max	25.0	1807.00

SIN COSTURA HASTA 10"

CODOS DE ACERO INOXIDABLE ASTM A-403 (90° R.C. Y 45° R.L.)



ANSI B16.28
MSS SP-43



ANSI B16.9
MSS SP-43



Diámetro Nominal - 90° R. C.

Diámetro Nominal	Diámetro Exterior en mm	A mm.	E		Peso en Kg.
			SCH	mm.	
1"	33.40	25.40	10S	2.77	0.09
			40S	3.38	0.11
			80S	4.55	0.15
1 1/4"	42.16	31.75	10S	2.77	0.14
			40S	3.56	0.17
			80S	4.85	0.22
1 1/2"	48.30	38.10	10S	2.77	0.20
			40S	3.68	0.25
			80S	5.08	0.34
2"	60.30	50.80	10S	2.77	0.33
			40S	3.91	0.46
			80S	5.54	0.63
2 1/2"	73.00	63.50	10S	3.05	0.59
			40S	5.16	0.84
			80S	7.01	1.19
3"	88.90	76.20	10S	3.05	0.85
			40S	5.49	1.38
			80S	7.62	1.75
4"	114.30	101.60	10S	3.05	1.52
			40S	6.02	2.70
			80S	8.56	3.87
5"	141.30	127.00	10S	3.40	2.72
			40S	6.55	5.30
			80S	9.53	6.90
6"	168.30	152.40	10S	3.40	4.07
			40S	7.11	7.60
			80S	10.97	11.08
8"	219.10	203.20	10S	3.76	7.88
			40S	8.18	16.72
			80S	12.70	23.37
10"	273.00	254.00	10S	4.19	15.56
			40S	9.27	28.00
			80S	12.70	42.55
12"	323.85	304.80	10S	4.57	17.80
			40S	9.53	35.56
			80S	12.70	54.00

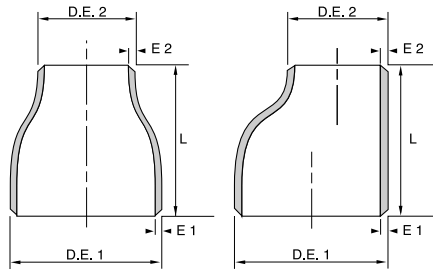
SIN COSTURA HASTA 10"

Diámetro Nominal - 45° R. L.

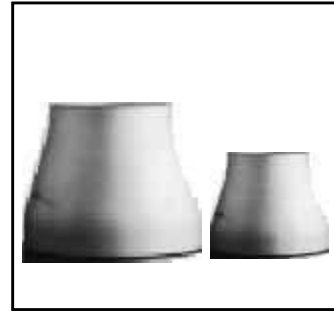
Diámetro Nominal	Diámetro Exterior en mm	B mm.	E		Peso en Kg.
			SCH	mm.	
1/2"	21.34	15.87	10S	2.11	0.039
			40S	2.77	0.052
			80S	3.70	0.050
3/4"	26.67	11.43	10S	2.11	0.064
			40S	2.87	0.077
			80S	3.90	0.060
1"	33.40	22.2	10S	2.77	0.103
			40S	3.38	0.130
			80S	4.55	0.140
1 1/4"	42.16	25.4	10S	2.77	0.142
			40S	3.56	0.184
			80S	4.85	0.240
1 1/2"	48.30	28.6	10S	2.77	0.239
			40S	3.68	0.326
			80S	5.08	0.370
2"	60.30	35	10S	2.77	0.406
			40S	3.91	0.683
			80S	5.54	0.540
2 1/2"	73.00	44.45	10S	3.05	0.571
			40S	5.16	1.020
			80S	7.01	1.010
3"	88.90	51	10S	3.05	0.764
			40S	5.49	1.410
			80S	7.62	1.540
4"	114.30	63.5	10S	3.05	0.985
			40S	6.02	1.920
			80S	8.56	2.960
5"	141.30	79.4	10S	3.40	1.710
			40S	6.55	3.420
			80S	9.53	5.420
6"	168.30	95.25	10S	3.40	2.430
			40S	7.11	5.450
			80S	10.97	9.300
8"	219.10	127.00	10S	3.76	4.650
			40S	8.18	10.320
			80S	12.70	17.880
10"	273.00	158.70	10S	4.19	8.050
			40S	9.27	18.530
			80S	12.70	27.410
12"	323.90	190.15	10S	4.57	12.420
			40S	9.53	28.500
			80S	12.70	41.690

SIN COSTURA HASTA 10"

REDUCCIONES DE ACERO INOXIDABLE CONCENTRICAS Y EXCENTRICAS ASTM A-403



ANSI B16.9 - MSS SP-43

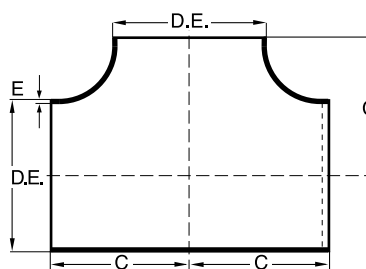


DIAMETRO NOMINAL	DIAMETRO EXTERIOR		ESPESOR EN PARED EN MM.						L mm.
			SCH 10		SCH 40		SCH 80		
	D.E. 1	D.E. 2	D.E. 1	D.E. 2	D.E. 1	D.E. 2	D.E. 1	D.E. 2	
3/4" x 3/8"	26.67	17.10	2.11	2.11	2.87	2.31	3.90	3.20	38
3/4" x 1/2"	26.67	21.34	2.11	2.11	2.87	2.77	3.90	3.70	38
1" x 3/8"	33.40	17.10	2.77	2.11	3.38	2.31	4.55	3.20	51
1" x 1/2"	33.40	21.34	2.77	2.11	3.38	2.77	4.55	3.70	51
1" x 3/4"	33.40	26.67	2.77	2.11	3.38	3.38	4.55	3.90	51
1 1/4" x 1/2"	42.16	21.34	2.77	2.11	3.56	2.77	4.85	3.70	51
1 1/4" x 3/4"	42.16	26.67	2.77	2.11	3.56	2.87	4.85	3.90	51
1 1/4" x 1"	42.16	33.40	2.77	2.77	3.56	3.38	4.85	4.55	51
1 1/2" x 1/2"	48.30	21.34	2.77	2.11	3.68	2.77	5.08	3.70	64
1 1/2" x 3/4"	48.30	26.67	2.77	2.11	3.68	2.87	5.08	3.90	64
1 1/2" x 1"	48.30	33.40	2.77	2.77	3.68	2.87	5.08	4.55	64
1 1/2" x 1 1/4"	48.30	42.16	2.77	2.77	3.68	3.55	5.08	4.85	64
2" x 3/4"	60.30	26.67	2.77	2.11	3.91	2.87	5.54	3.90	76
2" x 1"	60.30	33.40	2.77	2.77	3.91	2.87	5.54	4.55	76
2" x 1 1/4"	60.30	42.16	2.77	2.77	3.91	3.56	5.54	4.85	76
2" x 1 1/2"	60.30	48.30	2.77	2.77	3.91	3.68	5.54	5.08	76
2 1/2" x 1"	73.00	33.40	3.05	2.77	5.16	3.38	7.01	4.55	89
2 1/2" x 1 1/4"	73.00	42.16	3.05	2.77	5.16	3.56	7.01	4.85	89
2 1/2" x 1 1/2"	73.00	48.30	3.05	2.77	5.16	3.68	7.01	5.08	89
2 1/2" x 2"	73.00	60.30	3.05	2.77	5.16	3.91	7.01	5.54	89
3" x 1"	88.90	33.40	3.05	2.77	5.49	3.38	7.62	4.55	89
3" x 1 1/4"	88.90	42.16	3.05	2.77	5.49	3.56	7.62	4.85	89
3" x 1 1/2"	88.90	48.30	3.05	2.77	5.49	3.68	7.62	5.08	89
3" x 2"	88.90	60.30	3.05	2.77	5.49	3.91	7.62	5.54	89
3" x 2 1/2"	88.90	73.00	3.05	2.77	5.49	5.16	7.62	7.01	89
4" x 1 1/2"	114.30	48.30	3.05	2.77	6.02	3.68	8.56	5.08	102
4" x 2"	114.30	60.30	3.05	2.77	6.02	3.91	8.56	5.54	102
4" x 2 1/2"	114.30	73.00	3.05	3.05	6.02	5.16	8.56	7.01	102
4" x 3"	114.30	88.90	3.05	3.05	6.02	5.49	8.56	7.62	102
5" x 3"	141.30	88.90	3.40	3.05	6.55	5.49	9.53	7.62	127
5" x 4"	141.30	114.30	3.40	3.05	6.55	6.02	9.53	8.56	127
6" x 2 1/2"	168.30	73.00	3.40	3.05	7.11	5.16	10.97	7.01	140
6" x 3"	168.30	88.90	3.40	3.05	7.11	5.49	10.97	7.62	140
6" x 4"	168.30	114.30	3.40	3.05	7.11	6.02	10.97	8.56	140
6" x 5"	168.30	141.30	3.40	3.40	7.11	6.55	10.97	9.53	140
8" x 4"	219.10	114.30	3.76	3.05	8.18	6.02	12.70	8.56	152
8" x 5"	219.10	141.30	3.76	3.40	8.18	6.55	12.70	9.53	152
8" x 6"	219.10	168.30	3.76	3.40	8.18	7.11	12.70	10.97	152
10" x 5"	273.00	141.30	4.19	3.40	9.27	6.55	12.70	9.53	178
10" x 6"	273.00	168.30	4.19	3.40	9.27	7.11	12.70	10.97	178
10" x 8"	273.00	219.10	4.19	3.76	9.27	8.18	12.70	12.70	178
12" x 6"	323.90	168.30	4.57	3.40	9.53	7.11	12.70	10.97	203
12" x 8"	323.90	219.10	4.57	3.76	9.53	8.18	12.70	12.70	203
12" x 10"	323.90	273.00	4.57	4.19	9.53	9.27	12.70	12.70	203

DIAMETRO NOMINAL	PESO EN KG.		
	SCH 10	SCH 40	SCH 80
3/4" x 3/8"	0.090	0.050	0.100
3/4" x 1/2"	0.090	0.105	0.100
1" x 3/8"	0.110	0.120	0.140
1" x 1/2"	0.090	0.106	0.140
1" x 3/4"	0.090	0.110	0.150
1 1/4" x 1/2"	0.100	0.120	0.180
1 1/4" x 3/4"	0.120	0.140	0.190
1 1/4" x 1"	0.125	0.157	0.200
1 1/2" x 1/2"	0.154	0.204	0.260
1 1/2" x 3/4"	0.156	0.201	0.280
1 1/2" x 1"	0.170	0.219	0.290
1 1/2" x 1 1/4"	0.195	0.263	0.320
2" x 3/4"	0.214	0.298	0.450
2" x 1"	0.237	0.322	0.480
2" x 1 1/4"	0.258	0.352	0.500
2" x 1 1/2"	0.273	0.372	0.510
2 1/2" x 1"	0.349	0.793	0.660
2 1/2" x 1 1/4"	0.394	0.670	0.680
2 1/2" x 1 1/2"	0.396	0.661	0.740
2 1/2" x 2"	0.432	0.724	0.850
3" x 1"	0.408	0.716	0.840
3" x 1 1/4"	0.430	0.775	0.910
3" x 1 1/2"	0.444	0.783	0.990
3" x 2"	0.478	0.846	1.050
3" x 2 1/2"	0.548	0.983	1.300
4" x 1 1/2"	0.630	1.241	1.610
4" x 2"	0.656	1.270	1.710
4" x 2 1/2"	0.706	1.370	1.860
4" x 3"	0.748	1.450	1.970
5" x 3"	1.200	2.270	3.010
5" x 4"	1.320	2.500	3.350
6" x 2 1/2"	1.350	2.740	4.000
6" x 3"	1.500	3.040	4.160
6" x 4"	1.620	3.300	4.520
6" x 5"	1.750	3.570	5.000
8" x 4"	2.560	5.100	7.400
8" x 5"	2.700	5.400	7.750
8" x 6"	2.850	5.710	8.150
10" x 5"	3.300	8.210	14.240
10" x 6"	3.870	8.780	14.800
10" x 8"	4.210	9.580	15.580
12" x 6"	5.730	12.400	20.150
12" x 8"	6.110	13.700	20.900
12" x 10"	8.150	16.780	21.650

SIN COSTURA HASTA 10"

TES DE ACERO INOXIDABLE ASTM A-403



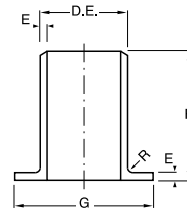
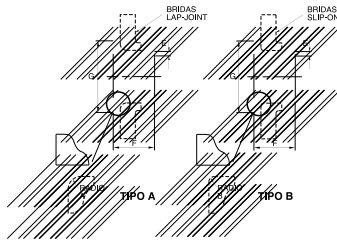
ANSI B16.9 - MSS SP-43

Diámetro Nominal	D. Exterior mm.	C mm.	E		Peso en kg.
			SCH	mm.	
1/2"	21.34	25	10S	2.11	0.100
			40S	2.77	0.100
			80S	3.70	0.140
3/4"	26.67	29	10S	2.11	0.100
			40S	2.87	0.200
			80S	3.90	0.200
1"	33.40	38	10S	2.77	0.300
			40S	3.38	0.300
			80S	4.55	0.500
1 1/4"	42.16	48	10S	2.77	0.500
			40S	3.56	0.600
			80S	4.85	0.680
1 1/2"	48.3	57	10S	2.77	0.700
			40S	3.68	0.900
			80S	5.08	1.200
2"	60.3	64	10S	2.77	0.800
			40S	3.91	1.200
			80S	5.54	1.600
2 1/2"	73.0	76	10S	3.05	1.400
			40S	5.16	2.300
			80S	7.01	3.400
3"	88.9	86	10S	3.05	1.800
			40S	5.49	3.200
			80S	7.62	4.200

Diámetro Nominal	D. Exterior mm.	C mm.	E		Peso en kg.
			SCH	mm.	
4"	114.3	105	10S	3.05	2.600
			40S	6.02	5.100
			80S	8.56	5.800
5"	141.3	124	10S	3.40	4.600
			40S	6.55	9.400
			80S	9.53	11.200
6"	168.3	143	10S	3.40	6.300
			40S	7.11	16.100
			80S	10.97	15.500
8"	219.1	178	10S	3.76	11.400
			40S	8.18	31.000
			80S	12.70	26.500
10"	273.0	216	10S	4.19	27.100
			40S	9.27	53.100
			80S	12.70	45.500
12"	323.9	254	10S	4.57	38.000
			40S	9.53	77.000
			80S	12.70	77.000
14"	355.6	279	10S	4.78	46.000
			40S	9.53	93.000
16"	406.4	305	10S	4.78	57.000
			40S	9.53	116.000
18"	457.2	343	10S	4.78	73.000
			40S	9.53	147.000
20"	508.0	381	10S	5.54	111.000
			std	9.53	182.000
24"	609.6	432	10S	6.35	149.000
			std	9.53	245.000

SIN COSTURA HASTA 10"

STUB ENDS DE ACERO INOXIDABLE ASTM A-403 - M.S.S. SP-43



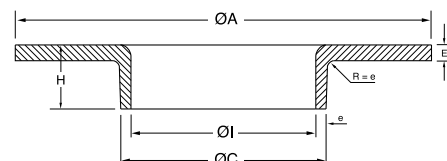
ANSI B16.9/93

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO EXTERIOR EN MILIMETROS	F	G	RADIO		SCHEDULE			PESO KG.		
				A	B	10S	40S	80S	SCH 10S	SCH 40S	SCH 80S
1/2"	21.34	51	35	3	0.76	2.11	2.77	3.70	0.070	0.800	0.118
3/4"	26.67	51	43	3	0.76	2.11	2.87	3.90	0.086	0.110	0.154
1"	33.40	51	51	3	0.76	2.77	3.38	4.55	0.140	0.186	0.220
1 1/4"	42.16	51	63.5	4.83	0.76	2.77	3.56	4.85	0.208	0.263	0.360
1 1/2"	48.26	51	73	6.35	0.76	2.77	3.68	5.08	0.249	0.300	0.380
2"	60.30	63.5	92	7.87	0.76	2.77	3.91	5.54	0.376	0.539	0.690
2 1/2"	73.03	63.5	105	7.87	0.76	3.05	5.16	7.01	0.471	0.797	1.030
3"	88.90	63.5	127	9.65	0.76	3.05	5.49	7.62	0.638	1.133	1.420
3 1/2"	101.60	76.2	140	9.65	0.76	3.05	5.74	-	0.850	1.320	2.160
4"	114.30	76.2	157	11.18	0.76	3.05	6.02	8.56	0.978	1.812	1.570
5"	141.30	76.2	186	11.18	1.52	3.40	6.55	9.53	1.237	2.537	3.130
6"	168.28	88.9	216	12.7	1.52	3.40	7.11	10.97	1.950	3.72	6.350
8"	219.08	101.6	270	12.7	1.52	3.76	8.18	-	3.100	5.89	-
10"	273.05	127	324	12.7	1.52	4.19	9.27	-	4.860	10.42	-
12"	323.85	152.4	381	12.7	1.52	4.57	9.53	-	7.110	14.05	-
14"	355.60	152.4	413	12.7	1.52	4.78	9.53	-	8.140	16.00	-
16"	406.40	152.4	470	12.7	1.52	4.78	9.53	-	9.320	18.34	-
18"	457.20	152.4	533	12.7	1.52	4.78	9.53	-	10.490	20.68	-
20"	508.00	152.4	584	12.7	1.52	5.54	9.53	-	13.510	23.00	-
24"	608.60	152.4	692	12.7	1.52	5.54	9.53	-	18.580	27.72	-

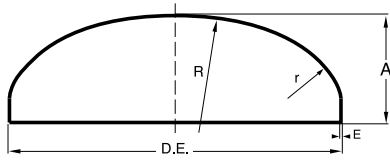
COLLARES DE ACERO INOXIDABLE ESTAMPADOS EN UNA SOLA PIEZA

DIAMETRO EN PULGADAS	D. DEL CUELLO DIAMETRO NOMINAL	MEDIDAS EN mm.					
		ALA ØA	ALTURA H	LIVIANOS e E		NORMALES e E	
1/2"	21.34	40	8	1.6	2	2.5	3
3/4"	26.67	50	8	1.6	2	2.5	3
1"	33.40	58	10	1.6	2	2.5	3
1 1/4"	42.16	70	11	1.6	2	2.5	3
1 1/2"	48.26	80	12	1.6	2	2.5	3
2"	60.33	98	15	1.6	2	2.5	3
2 1/2"	73.03	117	17	1.6	2	2.5	3
3"	88.90	130	18	1.6	2	2.5	3
3 1/2"	101.60	150	20	1.6	2	2.5	3
4"	114.30	165	20	1.6	2	2.5	3
5"	141.30	190	20	1.6	2	2.5	3
6"	168.28	216	20	1.6	2	2.5	3
8"	219.08	272	22	1.6	2	2.5	3

DIAMETRO EN PULGADAS	D. DEL CUELLO DIAMETRO NOMINAL	MEDIDAS EN mm.					
		ALA ØA	ALTURA H	LIVIANOS e E		NORMALES e E	
10"	273.05	330	22	2.5	3	3.5	4
12"	323.85	400	25	2.5	3	3.5	4
14"	355.60	439	25	2.5	3	3.5	4
16"	406.40	500	25	2.5	3	3.5	4
18"	457.20	536	25	2.5	3	3.5	4
20"	508.00	593	25	2.5	3	3.5	4
24"	609.60	704	25	2.5	3	3.5	4



CASQUETES PENSADOS DE ACERO INOXIDABLE ASTM A-403



Radio R = 0.8 x D.E., Radio r = 0.16 x D.E.

ANSI B16.9
MSS SP-43



Diámetro Nominal	D. E.	A	E		Peso en kg.
	mm.		SCH	mm.	
1/2"	21.34	25	10S	2.11	0.030
			40S	2.77	0.040
			80S	3.70	0.050
3/4"	26.67	25	10S	2.11	0.050
			40S	2.87	0.070
			80S	3.90	0.080
1"	33.40	38	10S	2.77	0.080
			40S	3.38	0.100
			80S	4.55	0.180
1 1/4"	42.16	38	10S	2.77	0.110
			40S	3.56	0.180
			80S	4.85	0.220
1 1/2"	48.30	38	10S	2.77	0.140
			40S	3.68	0.230
			80S	5.08	0.250
2"	60.30	38	10S	2.77	0.170
			40S	3.91	0.270
			80S	5.54	0.330
2 1/2"	73.00	38	10S	3.05	0.250
			40S	5.16	0.450
			80S	7.01	0.650
3"	88.90	51	10S	3.05	0.400
			40S	5.49	0.710
			80S	7.62	0.940
4"	114.30	64	10S	3.05	0.650
			40S	6.02	1.220
			80S	8.56	1.950
5"	141.30	76	10S	3.40	1.020
			40S	6.55	1.840
			80S	9.53	2.600
6"	168.30	89	10S	3.40	1.360
			40S	7.11	3.230
			80S	10.97	5.000
8"	219.10	102	10S	3.76	2.490
			40S	8.18	5.670
			80S	12.70	7.800
10"	273.00	127	10S	4.19	4.900
			40S	9.27	9.210
			80S	12.70	17.000
12"	323.90	152	10S	4.57	6.530
			40S	9.53	13.100
			80S	12.70	28.000
14"	355.60	165	10S	4.78	8.160
			std	9.53	16.200
16"	406.40	178	10S	4.78	14.500
			std	9.53	22.000
18"	457.20	203	10S	4.78	18.000
			std	9.53	27.000
20"	508.00	229	10S	5.54	27.200
			std	9.53	34.000
24"	609.60	267	10S	6.35	34.500
			std	9.53	44.500

BRIDAS FORJADAS DE ACERO INOXIDABLE, ASTM A-182

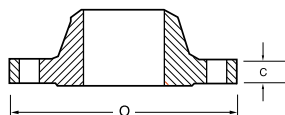
SERIE 150

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO EXTERIOR (O) EN MM.	ESPESOR (C) EN MM.	ALTURA A TRAVES DEL CUBO			CIRCULO MM.	CANTIDAD Y DIAMETRO DE ORIFICIOS MM.	PESO APROXIMADO POR BRIDA					DIAMETRO NOMINAL EN PULGADAS
			WELD NECK	SORF SW Y ROSC.	LAP JOINT			WN	SO Y ROSC.	L. J.	CIEGA	SW	
			MM.	MM.	MM.			Kg.	Kg.	Kg.	Kg.	Kg.	
1/2"	88.9	11.2	47.8	15.7	15.7	60.5	4 - 15.7	0.7	0.5	0.5	0.6	0.5	1/2"
3/4"	98.6	12.7	52.3	15.7	15.7	69.9	4 - 15.7	0.9	0.7	0.7	0.8	0.7	3/4"
1"	108.0	14.2	55.6	17.5	17.5	79.2	4 - 15.7	1.1	0.9	0.9	1.0	0.9	1"
1 1/4"	117.3	15.7	57.2	20.6	20.6	88.9	4 - 15.7	1.4	1.2	1.2	1.4	1.2	1 1/4"
1 1/2"	127.0	17.5	62.0	22.4	22.4	98.6	4 - 15.7	1.9	1.4	1.4	1.8	1.4	1 1/2"
2"	152.4	19.1	63.5	25.4	25.4	120.7	4 - 19.1	2.7	2.3	2.3	2.7	2.4	2"
2 1/2"	177.8	22.4	69.9	28.4	28.4	139.7	4 - 19.1	4.2	3.6	3.6	4.4	3.8	2 1/2"
3"	190.5	23.9	69.9	30.2	30.2	152.4	4 - 19.1	5.6	4.0	4.0	5.6	4.2	3"
3 1/2"	215.9	23.9	71.4	31.8	31.8	177.8	8 - 19.1	6.4	5.1	5.1	6.5	5.4	3 1/2"
4"	228.6	23.9	76.2	33.3	33.3	190.5	8 - 19.1	7.5	5.9	5.9	7.7	6.3	4"
5"	254.0	23.9	88.9	36.6	36.6	215.9	8 - 22.4	9.2	6.8	6.8	9.1	7.3	5"
6"	279.4	25.4	88.9	39.6	39.6	241.3	8 - 22.4	12.4	8.1	8.1	11.8	8.6	6"
8"	342.9	28.4	101.6	44.5	44.5	298.5	8 - 22.4	19.5	12.8	12.8	20.4	13.7	8"
10"	406.4	30.2	101.6	49.3	49.3	362.0	12 - 25.4	26.7	17.9	17.9	31.8	19.2	10"
12"	482.6	31.8	114.3	55.6	55.6	431.8	12 - 25.4	37	27.5	27.5	50	29.3	12"
14"	533.4	35.1	127.0	57.2	79.2	476.3	12 - 28.4	52	37.2	41	62	39.6	14"
16"	596.9	36.6	127.0	63.5	87.4	539.8	16 - 28.4	64	48	54	84	51	16"
18"	635.0	39.6	139.7	68.3	96.8	577.9	16 - 31.8	73	54	62	99	58	18"
20"	698.5	42.9	144.5	73.2	103.1	635.0	20 - 31.8	90	66	75	128	72	20"
24"	812.8	47.8	152.4	82.6	111.3	749.3	20 - 35.1	121	95	107	188	103	24"

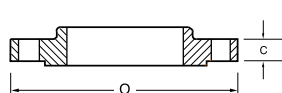
SERIE 300

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO EXTERIOR (O) EN MM.	ESPESOR (C) EN MM.	ALTURA A TRAVES DEL CUBO			CIRCULO MM.	CANTIDAD Y DIAMETRO DE ORIFICIOS MM.	PESO APROXIMADO POR BRIDA					DIAMETRO NOMINAL EN PULGADAS
			WELD NECK	SORF SW Y ROSC.	LAP JOINT			WN	SO Y ROSC.	L. J.	CIEGA	SW	
			MM.	MM.	MM.			Kg.	Kg.	Kg.	Kg.	Kg.	
1/2"	95.3	14.2	52.3	22.4	22.4	66.5	4 - 15.7	0.9	0.7	0.7	0.8	0.7	1/2"
3/4"	117.3	15.7	57.2	25.4	25.4	82.6	4 - 19.1	1.4	1.3	1.3	1.4	1.3	3/4"
1"	124.0	17.5	62.0	26.9	26.9	88.9	4 - 19.1	1.8	1.5	1.5	1.7	1.5	1"
1 1/4"	133.4	19.1	65.0	26.9	26.9	98.6	4 - 19.1	2.7	1.9	1.9	2.1	1.9	1 1/4"
1 1/2"	155.4	20.6	68.3	30.2	30.2	114.3	4 - 22.4	3.3	2.6	2.6	3.2	2.6	1 1/2"
2"	165.1	22.4	69.9	33.3	33.3	127.0	8 - 19.1	3.9	3.0	3.0	3.6	3.0	2"
2 1/2"	190.5	25.4	76.2	38.1	38.1	149.4	8 - 22.4	5.7	4.6	4.6	5.5	4.6	2 1/2"
3"	209.6	28.4	79.2	42.9	42.9	168.1	8 - 22.4	7.2	6.2	6.2	7.1	6.2	3"
3 1/2"	228.6	30.2	81.0	44.5	44.5	184.2	8 - 22.4	8.3	7.7	7.7	9.5	-	3 1/2"
4"	254.0	31.8	85.9	47.8	47.8	200.2	8 - 22.4	11.5	9.8	9.8	11.7	-	4"
5"	279.4	35.1	98.6	50.8	50.8	235.0	8 - 22.4	15.2	13.0	13.0	16.4	-	5"
6"	317.5	36.6	98.6	52.3	52.3	269.7	12 - 22.4	20.1	16.2	16.2	22.2	-	6"
8"	381.0	41.1	111.3	62.0	62.0	330.2	12 - 25.4	30.5	24.7	24.7	35	-	8"
10"	444.5	47.8	117.3	66.5	95.3	387.4	16 - 28.4	45.3	36	41	56	-	10"
12"	520.7	50.8	130.0	73.2	101.6	450.9	16 - 31.8	62.5	51	57	83	-	12"
14"	584.2	53.8	142.7	76.2	111.3	514.4	20 - 31.8	86	73	85	109	-	14"
16"	647.7	57.2	146.1	82.6	120.7	571.5	20 - 35.1	112	95	110	141	-	16"
18"	711.2	60.5	158.8	88.9	130.0	628.7	24 - 35.1	138	125	138	183	-	18"
20"	774.7	63.5	162.1	95.3	139.7	685.8	24 - 35.1	172	140	159	226	-	20"
24"	914.4	69.9	168.1	106.4	152.4	812.8	24 - 41.1	247	221	242	352	-	24"

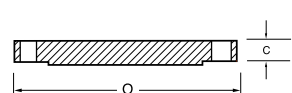
WELDING NECK



SLIP-ON



CIEGAS



ANSI B16.5

BRIDAS FORJADAS DE ACERO INOXIDABLE, ASTM A-182

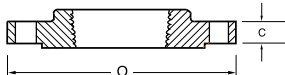
SERIE 600

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO EXTERIOR (D) EN MM.	ESPESOR (C) EN MM.	ALTURA A TRAVES DEL CUBO			CIRCULO MM.	CANTIDAD Y DIAMETRO DE ORIFICIOS MM.	PESO APROXIMADO POR BRIDA					DIAMETRO NOMINAL EN PULGADAS
			WELD NECK	SOB SW Y ROSC.	LAP JOINT			WN	SO Y ROSC.	L. J.	CIEGA	SW	
			MM.	MM.	MM.			Kg.	Kg.	Kg.	Kg.	Kg.	
1/2"	95.3	14.2	52.3	22.4	22.4	66.5	4 - 15.7	1.1	0.9	0.9	1.0	1.0	1/2"
3/4"	117.3	15.7	57.2	25.4	25.4	82.6	4 - 19.1	1.6	1.5	1.5	1.6	1.6	3/4"
1"	124.0	17.5	62.0	26.9	26.9	88.9	4 - 19.1	2.1	1.8	1.8	1.9	1.9	1"
1 1/4"	133.4	20.6	66.5	28.4	28.4	98.6	4 - 19.1	3.0	2.6	2.6	2.7	2.7	1 1/4"
1 1/2"	155.4	22.4	69.9	31.8	31.8	114.3	4 - 22.4	3.9	3.1	3.1	3.4	3.4	1 1/2"
2"	165.1	25.4	73.2	36.6	36.6	127.0	8 - 19.1	4.4	4.0	4.0	4.4	4.4	2"
2 1/2"	190.5	28.4	79.2	41.1	41.1	149.4	8 - 22.4	6.5	5.9	5.9	6.8	6.8	2 1/2"
3"	209.6	31.8	82.6	46.0	46.0	168.1	8 - 22.4	8.8	7.5	7.5	9.1	9.1	3"
3 1/2"	228.6	35.1	85.9	49.3	49.3	184.2	8 - 25.4	11.5	9.5	9.5	13.2	-	3 1/2"
4"	273.1	38.1	101.6	53.8	53.8	215.9	8 - 25.4	19.5	15.1	15.1	18.5	-	4"
5"	330.2	44.5	114.3	60.5	60.5	266.7	8 - 28.4	29.1	24.1	24.1	30.9	-	5"
6"	355.6	47.8	117.3	66.5	66.5	292.1	12 - 28.4	35	29	29	39	-	6"
8"	419.1	55.6	133.4	76.2	76.2	349.3	12 - 31.8	54	49	49	62	-	8"
10"	508.0	63.5	152.4	85.9	111.3	431.8	16 - 35.1	86	75	81	101	-	10"
12"	558.8	66.5	155.4	91.9	117.3	489.0	20 - 35.1	102	89	97	134	-	12"
14"	603.3	69.9	165.1	93.7	127.0	527.1	20 - 38.1	160	110	121	172	-	14"
16"	685.8	76.2	177.8	106.4	139.7	603.3	20 - 41.1	216	166	181	227	-	16"
18"	743.0	82.6	184.2	117.3	152.4	654.1	20 - 44.5	252	219	237	285	-	18"
20"	812.8	88.9	190.5	127.0	165.1	723.9	24 - 44.5	316	276	301	377	-	20"
24"	939.8	101.6	203.2	139.7	184.2	838.2	24 - 50.8	450	339	374	551	-	24"

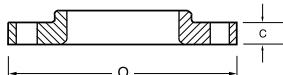
SERIE 900

DIAMETRO NOMINAL EN PULGADAS	DIAMETRO EXTERIOR (D) EN MM.	ESPESOR (C) EN MM.	ALTURA A TRAVES DEL CUBO			CIRCULO MM.	CANTIDAD Y DIAMETRO DE ORIFICIOS MM.	PESO APROXIMADO POR BRIDA					DIAMETRO NOMINAL EN PULGADAS
			WELD NECK	SOB SW Y ROSC.	LAP JOINT			WN	SO Y ROSC.	L. J.	CIEGA	SW	
			MM.	MM.	MM.			Kg.	Kg.	Kg.	Kg.	Kg.	
1/2"	120.7	22.4	60.5	31.8	31.8	82.6	4 - 22.4	2.3	2.1	2.1	2.0	1/2"	
3/4"	130.0	25.4	69.9	35.1	35.1	88.9	4 - 22.4	3.2	2.8	2.8	2.7	3/4"	
1"	149.4	28.4	73.2	41.1	41.1	101.6	4 - 25.4	4.1	3.9	3.9	4.1	1"	
1 1/4"	158.8	28.4	73.2	41.1	41.1	111.3	4 - 25.4	4.5	4.3	4.3	4.5	1 1/4"	
1 1/2"	177.8	31.8	82.6	44.5	44.5	124.0	4 - 28.4	6.4	6.0	6.0	6.4	1 1/2"	
2"	215.9	38.1	101.6	57.2	57.2	165.1	8 - 25.4	12.0	10.5	10.5	11.3	2"	
2 1/2"	244.3	41.1	104.6	63.5	63.5	190.5	8 - 28.4	16.3	11.3	11.3	15.9	2 1/2"	
3"	241.3	38.1	101.6	53.8	53.8	190.5	8 - 25.4	14.5	14.1	14.1	14.5	3"	
4"	292.1	44.5	114.3	69.9	69.9	235.0	8 - 31.8	23.2	23.0	23.0	24.5	4"	
5"	349.3	50.8	127.0	79.2	79.2	279.4	8 - 35.1	39	38	38	39	5"	
6"	381.0	55.6	139.7	85.9	85.9	317.5	12 - 31.8	50	49	49	51	6"	
8"	469.9	63.5	162.1	101.6	114.3	393.7	12 - 38.1	85	78	85	89	8"	
10"	546.1	69.9	184.2	108.0	127.0	469.9	16 - 38.1	122	111	126	132	10"	
12"	609.6	79.2	200.2	117.3	142.7	533.4	20 - 38.1	169	148	168	188	12"	
14"	641.4	85.9	212.9	130.0	155.4	558.8	20 - 41.1	255	173	187	224	14"	
16"	704.9	88.9	215.9	133.4	165.1	616.0	20 - 44.5	311	208	222	281	16"	
18"	787.4	101.6	228.6	152.4	190.5	685.8	20 - 50.8	419	294	304	400	18"	
20"	857.3	108.0	247.7	158.8	209.6	749.3	20 - 53.8	528	360	394	503	20"	
24"	1041.4	139.7	292.1	203.2	266.7	901.7	20 - 66.5	957	672	753	953	24"	

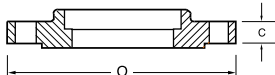
ROSCADAS



LAP JOINT



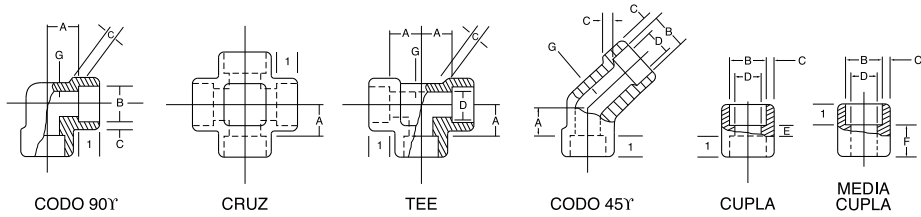
SOCKET WELDING



ANSI B16.5

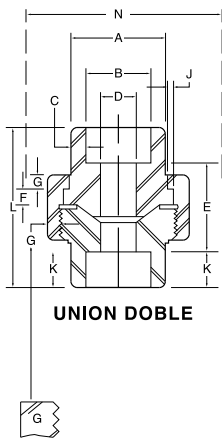
ACCESORIOS FORJADOS DE ACERO INOXIDABLE PARA SOLDAR A ENCHUFE ASTM A-182

ACEROS INOXIDABLES FITZNER S.A.



SERIE 3000/6000/9000 LBS. • ANSI B16.11

DIAMETRO NOMINAL	DIAMETRO DEL ENCHUFE		ESPESOR DE PARED DEL ENCHUFE (1) C						ESPESOR DE PARED DEL ACCESORIO (G)			PROFUNDIDAD DEL ENCHUFE Min.(J)	CENTRO AL TOPE DEL ENCHUFE (A)						DISTANCIA ENTRE TOPES						
	DIA. (2)	DIAMETRO INTERIOR DEL ACCESORIO (2) D			SERIE/LBS						SERIE/LBS			CODO 90° TEE Y CRUZ			CODO 45°			CUPLA (E)	MEDIA CUPLA (F)				
		SERIE/LBS			3000		6000		9000		3000		6000		9000		SERIE/LBS					SERIE/LBS			
		3000	6000	9000	PROM.	MIN.	PROM.	MIN.	PROM.	MIN.	MIN.		MIN.	MIN.	3000	6000	9000	3000	6000			9000			
1/8	10.90	7.6	4.8		3.2	3.2	3.95	3.45			2.4	3.15		10	12	12		9	9		8	17			
	10.65	6.1	3.2												10	10		7	7		5	15			
1/4	14.35	10.0	7.1		3.8	3.3	4.6	4			3	3.7		10	12	17		9	9		8	17			
	14.10	8.5	5.6												10	10	13		7	7		5	15		
3/8	17.80	13.3	9.9		4	3.5	5.05	4.35			3.2	4		10	15	17		9	13		9	19			
	17.55	11.8	8.4												12	14		6	10		3	16			
1/2	21.95	16.6	12.5	7.2	4.65	4.1	5.95	5.2	9.35	8.2	3.75	4.8	7.45	10	17	21	27	13	14	17	13	24			
	21.70	15.0	11.0	5.6											14	18	24	10	11	14	6	21			
3/4	27.30	21.7	16.3	11.8	4.9	4.25	6.95	6.05	9.8	8.55	3.9	5.55	7.8	13	21	24	30	14	16	21	13	25			
	27.05	20.2	14.8	10.3											18	21	27	11	13	17	6	22			
1	34.05	27.4	21.5	16.0	5.7	5	7.9	6.95	11.4	9.95	4.55	6.35	9.1	13	24	29	34	16	19	23	17	31			
	33.80	25.9	19.9	14.5											20	25	30	12	16	19	9	27			
1 1/4	42.80	35.8	30.2	23.5	6.05	5.3	7.9	6.95	12.5	10.6	4.85	6.35	9.7	13	29	34	37	19	23	24	17	32			
	42.55	34.3	28.7	22.0											25	30	33	16	19	20	9	28			
1 1/2	48.90	41.7	34.7	28.7	6.35	5.55	8.9	7.8	12.7	11.15	5.1	7.15	10.15	13	34	40	40	23	27	28	17	34			
	48.65	40.1	33.2	27.2											30	36	36	19	23	23	9	30			
2	61.35	53.5	43.6	38.9	6.95	6.05	10.9	9.5	13.85	12.15	5.55	8.75	11.05	16	40	43	56	27	31	31	23	43			
	61.10	51.7	42.1	37.4											36	39	52	23	27	26	15	39			



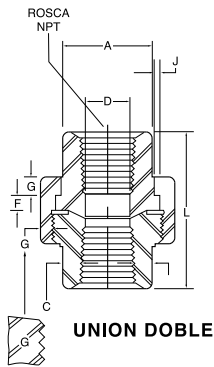
ANSI B16.11

DIAM. NOMINAL	A (MIN.)	B	C (MIN.)	D	E	F (MIN.)	G	J (MIN.)	K (MIN.)	L	N
1/8	21.8	10.92	3.17	6.83	22.4	3.17	3.17	1.24	9.6	41.4	49
		10.67		6.43	19.0						
1/4	21.8	14.22	3.3	9.85	22.4	3.17	3.17	1.24	9.6	41.4	49
		13.97		9.45	19.0						
3/8	25.9	17.78	3.48	13.92	26.9	3.43	3.43	1.37	9.6	46	55
		17.53		13.51	20.6						
1/2	31.2	21.84	4.06	17.47	26.9	3.68	3.68	1.5	9.6	49	57
		21.59		17.07	20.6						
3/4	37.1	27.18	4.27	21.79	31.8	4.06	4.06	1.68	12.7	56.9	67
		26.92		21.39	25.4						
1	45.5	34.04	4.95	28.14	34.3	4.57	4.44	1.85	12.7	62	79
		33.78		27.74	26.2						
1 1/4	54.9	42.67	5.28	35.76	40.6	5.33	5.21	2.13	12.7	71.1	94
		42.42		35.36	32.5						
1 1/2	61.5	48.77	5.54	41.61	42.2	5.84	5.59	2.31	12.7	76.5	111
		48.51		41.20	34.0						
2	75.2	61.47	6.05	52.53	45.5	6.6	6.35	2.69	15.8	86.1	132
		61.21		52.12	37.3						

Todas las dimensiones Expresadas en mm.

- 1) El espesor de pared promedio del enchufe no debe ser inferior al indicado. Los espesores mínimos están permitidos sólo en áreas localizadas.
- 2) Los valores superiores e inferiores indicados para cada diámetro son los máximos y mínimos respectivamente.

ACCESORIOS FORJADOS DE ACERO INOXIDABLE PARA ROSCAR ASTM A-182



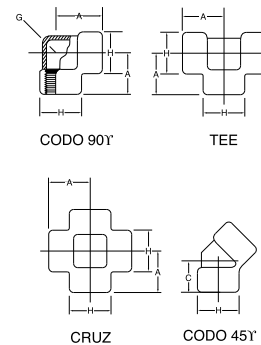
UNION DOBLE

ANSI B16.11

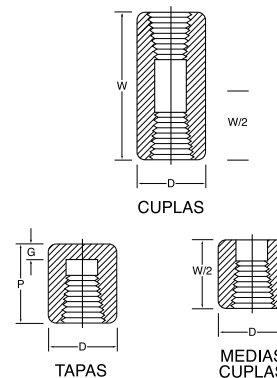
DIAM. NOMINAL	A (MIN.)	C (MIN.)	D	F (MIN.)	G	J (MIN.)	L	N
1/8	14.7	2.41	6.83 6.43	3.17	3.2	1.24	41.4	49
1/4	19	3.02	9.85 9.45	3.17	3.2	1.24	41.4	49
3/8	22.9	3.2	13.92 13.51	3.43	3.4	1.37	46	55
1/2	27.7	3.73	17.47 17.07	3.68	3.7	1.5	49	57
3/4	33.5	3.91	21.79 21.39	4.06	4.1	1.68	56.9	67
1	41.4	4.55	28.14 27.74	4.57	4.4	1.85	62	79
1 1/4	50.5	4.85	35.76 35.36	5.33	5.2	2.13	71.1	94
1 1/2	57.2	5.08	41.61 41.20	5.84	5.6	2.31	76.4	111
2	70.1	5.54	52.53 52.12	6.6	6.4	2.69	86.1	132

Los valores superiores e inferiores indicados para cada diámetro son los máximos y mínimos respectivamente.

DIAMETRO NOMINAL	CODO 90° TEE · CRUZ (A)		CODO 45° (C)		(H)		(G) MIN.	
	3000	6000	3000	6000	3000	6000	3000	6000
1/8	21	25	17	19	22	25	3	6.5
1/4	25	29	19	22	25	33	3.5	6.5
3/8	29	33	22	25	33	38	3.5	7
1/2	33	38	25	29	38	46	4	8
3/4	38	44	29	33	46	56	4.5	8.5
1	44	51	33	35	56	62	5	10
1 1/4	51	60	35	43	62	75	5.5	10.5
1 1/2	60	64	43	44	75	84	5.5	11
2	64	83	45	52	84	102	7	12



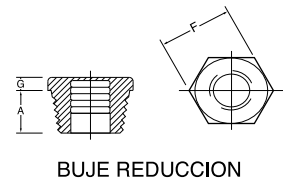
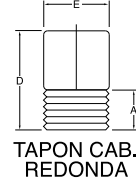
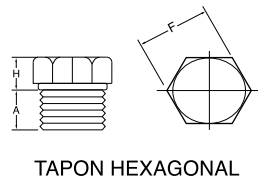
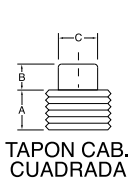
DIAMETRO NOMINAL	CUPLA (W)	TAPA (P)		(D)		(G) MIN.	
	3000 Y 6000	3000	6000	3000	6000	3000	6000
1/8	32	19		16	22	5.0	
1/4	35	25	27	19	25	5.0	6.5
3/8	38	25	27	22	32	5.0	6.5
1/2	48	32	33	29	38	6.5	8.0
3/4	51	37	38	35	44	6.5	8.0
1	60	41	43	44	57	9.5	11.0
1 1/4	67	44	46	57	64	9.5	11.0
1 1/2	79	44	48	64	76	11.0	12.5
2	86	48	51	76	92	12.5	16.0



SERIE 3000/6000 LBS.
ANSI B16.11

Todas las dimensiones expresadas en mm.
Largo de las roscas según ANSI B2.1

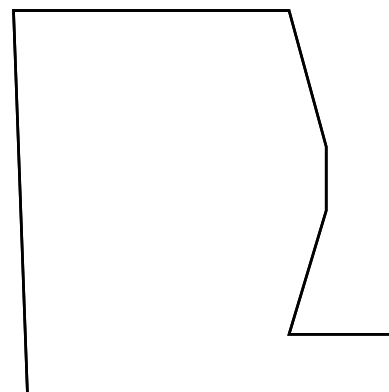
ACCESORIOS FORJADOS DE ACERO INOXIDABLE PARA ROSCAR ASTM A-182



ANSI B16.11

DIAMETRO NOMINAL	A (MIN.)	TAPON CABEZA CUADRADA		TAPON CABEZA REDONDA		TAPON CABEZA HEXAGONAL Y BUJE REDUCCION		
		B (MIN.)	C (MIN.)	E	D (MIN.)	F	ALTURA HEXAGONO (MIN.)	
							BUJE G	TAPON H
1/8	9.5	6	7	10	35	11		6
1/4	11	6	9.5	13	41	16	3	6
3/8	12.5	8	11	17	41	17.5	4	8
1/2	14.5	10	14.5	21	44	22	5	8
3/4	16	11	16	27	44	27	6	10
1	19	13	20.5	33	51	35	6	10
1 1/4	20.5	14	24	43	51	44.5	7	14
1 1/2	20.5	16	28.5	48	51	51	8	16
2	22	17	33.5	60	64	63.5	9	17

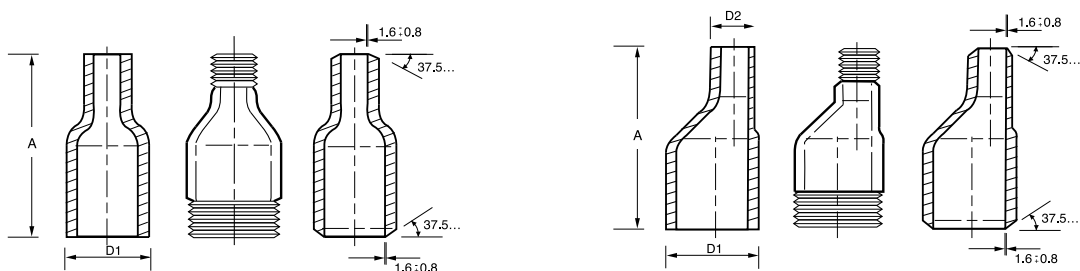
DIAMETRO NOMINAL	A
	ENTRERROSCAS
1/4	39
3/8	42
1/2	46
3/4	53
1	55
1 1/4	59
1 1/2	63
2	76



ANSI B16.11

Todas las dimensiones expresadas en mm

NIPLES DE REDUCCION DE ACERO INOXIDABLE ASTM A-182



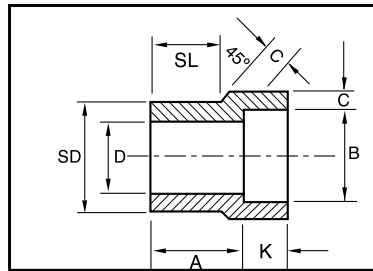
MSS-SP 95

Diámetro Nominal en Pulgadas	DIAMETRO EXTERIOR		LARGO "A"
	MAYOR D1	MENOR D2	
1/4 x 1/8	13.7	10.3	57
3/8 x 1/8	17.1	10.3	64
3/8 x 1/4	17.1	13.7	64
1/2 x 1/8	21.3	10.3	70
1/2 x 1/4	21.3	13.7	70
1/2 x 3/8	21.3	17.1	70
3/4 x 1/8	26.7	10.3	76
3/4 x 1/4	26.7	13.7	76
3/4 x 3/8	26.7	17.1	76
3/4 x 1/2	26.7	21.3	76
1 x 1/8	33.4	10.3	89
1 x 1/4	33.4	13.7	89
1 x 3/8	33.4	17.1	89
1 x 1/2	33.4	21.3	89
1 x 3/4	33.4	26.7	89
1-1/4 x 1/8	42.2	10.3	102
1-1/4 x 1/4	42.2	13.7	102
1-1/4 x 3/8	42.2	17.1	102

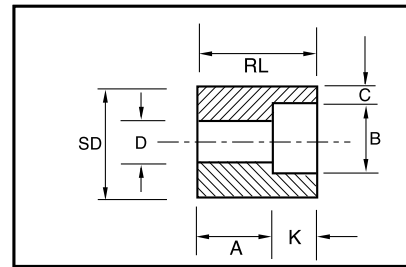
Diámetro Nominal en Pulgadas	DIAMETRO EXTERIOR		LARGO "A"
	MAYOR D1	MENOR D2	
1-1/4 x 1/2	42.2	21.3	102
1-1/4 x 3/4	42.2	26.7	102
1-1/4 x 1	42.2	33.4	102
1-1/2 x 1/8	48.3	10.3	114
1-1/2 x 1/4	48.3	13.7	114
1-1/2 x 3/8	48.3	17.1	114
1-1/2 x 1/2	48.3	21.3	114
1-1/2 x 3/4	48.3	26.7	114
1-1/2 x 1	48.3	33.4	114
1-1/2 x 1-1/4	48.3	42.2	114
2 x 1/8	60.3	10.3	165
2 x 1/4	60.3	13.7	165
2 x 3/8	60.3	17.1	165
2 x 1/2	60.3	21.3	165
2 x 3/4	60.3	26.7	165
2 x 1	60.3	33.4	165
2 x 1-1/4	60.3	42.2	165
2 x 1-1/2	60.3	48.3	165

Todas las dimensiones expresadas en mm

INSERTOS DE REDUCCION DE ACERO INOXIDABLE ASTM A-182



TIPO 1



TIPO 2

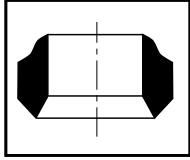
MSS-SP 79

DIAMETRO NOMINAL EN PULGADAS	TIPO		ENCHUFE		DIA SD	LARGO (A)		DIAMETRO (D)		ESPESOR PARED (MIN) (C)		Dimensiones en mm.			
			DIAM (B)	PROFU MIN (K)								LARGO			
	3000	6000				3000	6000	3000	6000	3000	6000	3000	6000		
3/8 x 1/4	1	1	14.35	10	17.15	19	21	9.0	6.5	3.78	4.60	14	16	-	-
1/2 x 3/8	1	1	17.78	10	21.34	21	23	12.5	9.0	4.01	5.03	16	16	-	-
1/2 x 1/4	1	1	14.35	10	21.34	21	21	9.0	6.5	3.78	4.60	16	16	-	-
3/4 x 1/2	1	1	21.97	10	26.67	22	25	16.0	11.5	4.67	5.97	17	19	-	-
3/4 x 3/8	2	1	17.78	10	26.67	16	22	12.5	9.0	4.01	5.03	-	19	27	-
3/4 x 1/4	2	2	14.35	10	26.67	18	22	9.0	6.5	3.78	4.60	-	-	27	32
1 x 3/4	1	1	27.31	13	33.40	24	28	21.0	15.5	4.90	6.96	19	21	-	-
1 x 1/2	2	1	21.97	10	33.40	16	28	16.0	11.5	4.67	5.97	-	21	28	-
1 x 3/8	2	2	17.78	10	33.40	18	22	12.5	9.0	4.01	5.03	-	-	28	33
1 x 1/4	2	2	14.35	10	33.40	19	24	9.0	6.5	3.78	4.60	-	-	28	33
1-1/4 x 1	1	1	34.04	13	42.16	25	30	26.5	20.5	5.69	7.92	21	22	-	-
1-1/4 x 3/4	2	2	27.31	13	42.16	18	21	21.0	15.5	4.90	6.96	-	-	32	35
1-1/4 x 1/2	2	2	21.97	10	42.16	19	22	16.0	11.5	4.67	5.97	-	-	32	35
1-1/4 x 3/8	2	2	17.78	10	42.16	21	24	12.5	9.0	4.01	5.03	-	-	32	35
1-1/4 x 1/4	2	2	14.35	10	42.16	22	25	9.0	6.5	3.78	4.60	-	-	32	35
1-1/2 x 1-1/4	1	1	42.80	13	48.26	28	35	35.0	29.5	6.07	7.92	22	25	-	-
1-1/2 x 1	2	1	34.04	13	48.26	18	29	26.5	20.5	5.69	7.92	-	25	33	-
1-1/2 x 3/4	2	2	27.31	13	48.26	19	25	21.0	15.5	4.90	6.96	-	-	33	40
1-1/2 x 1/2	2	2	21.97	10	48.26	21	27	16.0	11.5	4.67	5.97	-	-	33	40
1-1/2 x 3/8	2	2	17.78	10	48.26	22	28	12.5	9.0	4.01	5.03	-	-	33	40
2 x 1-1/2	1	1	48.90	13	60.32	32	39	41.0	34.0	6.35	8.9	25	28	-	-
2 x 1-1/4	2	2	42.8	13	60.32	21	24	35.0	29.5	6.07	7.92	-	-	38	41
2 x 1	2	2	34.04	13	60.32	22	25	26.5	21.0	5.69	7.92	-	-	38	41
2 x 3/4	2	2	27.31	13	60.32	24	27	21.0	15.5	4.90	6.96	-	-	38	41
2 x 1/2	2	2	21.97	10	60.32	25	28	16.0	11.5	4.67	5.97	-	-	38	41

Todas las dimensiones expresadas en mm

OUTLETS FORJADOS, DE ACERO INOXIDABLE, ASTM A-182

WELDOLETS - SERIE 3000

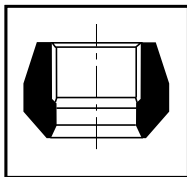


MSS-SP 97

DIAMETRO NOMINAL DEL CAÑO EN PULGADAS	OUT-LET DIAMETRO NOMINAL
36 - 3/8	1/8
3/8	1/4
1/2	3/8
3/4	1/2
1	3/4
1 - 1/4	1
1 - 1/2	1 - 1/4
2	1 - 1/2
2 - 1/2	2
3	2 - 1/2
4	3
6	3 - 1/2

DIAMETRO NOMINAL DEL CAÑO EN PULGADAS	OUT-LET DIAMETRO NOMINAL
36 - 5	4
6	5
8	6
10	8
12	10
14	12
16	14
18	16
20	18
22	20
26	24

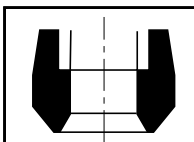
THREADOLETS - SERIE 3000



MSS-SP 97

DIAMETRO NOMINAL DEL CAÑO EN PULGADAS	OUT-LET DIAMETRO NOMINAL
36 - 3/8	1/8
3/8	1/4
1/2	3/8
3/4	1/2
1	3/4
1 - 1/4	1
1 - 1/2	1 - 1/4
2	1 - 1/2
2 - 1/2	2
3	2 - 1/2
4	3
6	4

SOCKOLETS - SERIE 3000



MSS-SP 97

DIAMETRO NOMINAL DEL CAÑO EN PULGADAS	OUT-LET DIAMETRO NOMINAL
36 - 3/8	1/8
3/8	1/4
1/2	3/8
3/4	1/2
1	3/4
1 - 1/4	1
1 - 1/2	1 - 1/4
2	1 - 1/2
2 - 1/2	2
3	2 - 1/2
4	3
6	4

BARRAS PERFORADAS DE ACERO INOXIDABLE



DIAMETRO EXTERIOR EN MM.	DIAMETRO INTERIOR EN MM.	DIM. GARANTIZ. DESP. DESB.				PESO KG/M
		CENTRADO P. EL D. EXT		CENTRADO P. EL D. INT.		
		D. EXT. MAX. MM.	D. INT. MIN. MM.	D. EXT. MAX. MM.	D. INT. MIN. MM.	
32	20	31.0	21.9	30.1	21.0	4.20
	16	31.0	18.0	30.0	17.0	5.07
	25	35.0	26.9	34.1	26.0	4.55
36	20	35.0	22.0	34.0	21.0	5.91
	16	35.0	18.1	33.9	17.0	6.78
	28	39.0	29.9	38.1	29.0	5.49
40	25	39.0	27.0	38.0	26.0	6.47
	20	39.0	22.1	37.9	21.0	7.83
	32	44.0	33.9	43.1	33.0	6.70
45	28	44.0	30.0	43.0	29.0	8.17
	20	44.0	22.2	42.8	21.0	10.50
	36	49.0	38.0	48.0	37.0	8.01
50	32	49.0	34.1	47.9	33.0	9.70
	25	49.0	27.2	47.8	26.0	12.10
	40	55.0	42.0	54.0	41.0	10.20
56	36	55.0	38.1	53.9	37.0	12.10
	28	55.0	30.3	53.7	29.0	15.20
	50	62.0	51.9	61.1	51.0	9.91
63	40	62.0	42.2	60.8	41.0	15.40
	36	62.0	38.3	60.7	37.0	17.30
	32	62.0	34.4	60.6	23.0	19.00
71	56	69.9	58.0	68.9	57.0	12.90
	45	69.9	47.3	68.6	46.0	19.60
	40	69.9	42.4	68.5	41.0	22.30
	36	69.9	38.5	68.4	37.0	24.10
75	40	73.8	42.5	72.3	41.0	26.00
80	63	78.8	65.0	77.8	64.0	16.40
	50	78.8	52.4	77.4	51.0	25.30
	45	78.8	47.5	77.3	46.0	28.30
	40	78.8	42.6	77.2	41.0	30.90
85	45	83.7	47.6	82.1	46.0	33.50
90	71	88.6	73.1	87.6	72.1	20.60
	63	88.6	65.3	87.3	64.0	27.10
	56	88.6	58.5	87.1	57.0	32.30
	50	88.6	52.6	87.0	51.0	36.10
95	50	93.5	52.7	91.8	51.0	42.10
100	80	98.5	82.3	97.4	81.2	24.40
	71	98.5	73.4	97.2	72.1	32.70
	63	98.5	65.5	97.0	64.0	39.20
	56	98.5	58.7	96.8	57.0	42.30
106	80	104.4	82.5	103.1	81.2	32.30
	71	104.4	73.5	103.0	72.1	40.60
	63	104.4	65.7	102.7	64.0	47.10
	56	104.4	58.9	102.5	57.0	52.10

DIAMETRO EXTERIOR EN MM.	DIAMETRO INTERIOR EN MM.	DIM. GARANTIZ. DESP. DESB.				PESO KG/M
		CENTRADO P. EL D. EXT		CENTRADO P. EL D. INT.		
		D. EXT. MAX. MM.	D. INT. MIN. MM.	D. EXT. MAX. MM.	D. INT. MIN. MM.	
112	90	110.3	92.5	109.2	91.4	30.20
	80	110.3	82.6	108.9	81.2	40.60
	71	110.3	73.7	108.7	72.1	48.80
	63	110.3	65.8	108.5	64.0	55.30
118	90	116.2	92.7	114.9	91.4	39.00
	80	116.2	82.8	114.6	81.2	49.40
	71	116.2	73.8	114.5	72.1	57.60
	63	116.2	66.0	114.2	64.0	64.20
125	100	123.1	102.7	121.9	101.5	38.30
	90	123.1	92.8	121.7	91.4	49.80
	80	123.1	82.9	121.4	81.2	60.20
	71	123.1	74.0	121.2	72.1	68.50
132	106	130.0	108.8	128.8	107.6	42.00
	90	130.0	93.0	128.4	91.4	61.10
	80	130.0	83.1	128.1	81.2	71.50
	71	130.0	74.2	127.9	72.1	79.70
140	112	137.9	115.0	136.6	113.7	47.80
	100	137.9	103.1	136.3	101.5	63.30
	90	137.9	93.2	136.1	91.4	74.90
	80	137.9	83.3	135.8	81.2	85.20
150	125	147.7	128.1	146.5	126.9	47.40
	106	147.7	109.3	146.0	107.6	74.20
	95	147.7	98.4	145.7	96.4	87.70
	80	147.7	83.6	145.3	81.2	101.00
160	132	157.6	135.3	156.3	134.0	56.20
	122	157.6	125.4	156.0	123.8	71.60
	112	157.6	115.5	155.8	113.7	85.80
170	140	167.4	143.5	166.0	142.1	63.80
	130	167.4	133.6	165.8	132.0	80.20
	118	167.4	121.7	165.5	119.8	98.40
180	150	177.3	153.6	176.0	152.3	68.40
	140	177.3	143.7	175.7	142.1	86.10
	125	177.3	128.9	175.3	126.9	110.00
190	160	187.1	163.8	185.7	162.4	73.00
	150	187.1	153.9	185.5	152.3	91.90
	132	187.1	136.0	185.1	134.0	123.00
	160	197.0	164.0	195.4	162.4	97.60
200	150	197.0	154.1	195.2	152.3	117.00
	140	197.0	144.2	194.9	142.1	134.00
	170	208.8	174.2	207.2	172.6	109.00
212	130	208.8	134.6	206.2	132.0	182.00
	180	220.6	184.4	218.9	182.7	121.00
224	140	220.6	144.8	217.9	142.1	199.00
	190	232.4	194.6	230.7	192.9	133.00
236	150	232.4	155.0	229.7	152.3	216.00
	200	246.2	204.9	244.3	203.0	153.00

BARRAS REDONDAS, CUADRADAS Y HEXAGONALES DE ACERO INOXIDABLE



TABLA DE PESOS TEORICOS

DIM. mm.				DIM. mm.				DIM. mm.			
3	0,056	0,071	0,061	48	14,21	18,09	15,66	93	53,32	67,89	58,80
4	0,099	0,126	0,109	49	14,80	18,85	16,32	94	54,48	69,36	60,07
5	0,154	0,196	0,170	50	15,41	19,63	17,00	95	55,64	70,85	61,35
6	0,222	0,283	0,245	51	16,04	20,42	17,68	96	56,82	72,35	62,65
7	0,302	0,385	0,333	52	16,67	21,23	18,38	97	58,01	73,86	63,96
8	0,395	0,502	0,435	53	17,32	22,05	19,10	98	59,21	75,39	65,29
9	0,499	0,636	0,551	54	17,98	22,89	19,82	99	60,43	76,94	66,63
10	0,617	0,785	0,680	55	18,61	23,75	20,56	100	61,65	78,50	67,98
11	0,746	0,950	0,823	56	19,33	24,62	21,32	101	62,89	80,07	69,35
12	0,888	1,130	0,979	57	20,03	25,50	22,08	102	64,14	81,67	70,73
13	1,042	1,327	1,149	58	20,74	26,41	22,87	103	65,41	83,28	72,12
14	1,208	1,539	1,332	59	21,46	27,33	23,67	104	66,69	84,91	73,53
15	1,387	1,766	1,530	60	22,20	28,26	24,47	105	67,97	86,55	74,95
16	1,578	2,010	1,740	61	22,94	29,21	25,30	106	69,27	88,20	76,38
17	1,782	2,269	1,965	62	23,70	30,18	26,13	107	70,58	89,87	77,83
18	1,998	2,543	2,203	63	24,47	31,16	26,98	108	71,91	91,56	79,29
19	2,226	2,834	2,454	64	25,25	32,15	27,85	109	73,25	93,27	80,77
20	2,466	3,140	2,719	65	26,05	33,16	28,72	110	74,60	94,99	82,26
21	2,719	3,469	2,998	66	26,86	34,19	29,61	111	75,96	96,72	83,76
22	2,984	3,792	3,290	67	27,68	35,24	30,52	112	77,34	98,47	85,28
23	3,261	4,153	3,596	68	28,51	36,30	31,44	113	78,73	100,24	86,80
24	3,551	4,522	3,916	69	29,35	37,37	32,36	114	80,13	102,02	88,35
25	3,853	4,906	4,249	70	30,21	38,47	33,31	115	81,54	103,82	89,91
26	4,168	5,307	4,596	71	31,08	39,57	34,27	116	82,96	105,63	91,48
27	4,495	5,723	4,956	72	31,96	40,69	35,24	117	84,40	107,46	93,06
28	4,834	6,154	5,330	73	32,86	41,83	36,22	118	85,84	109,30	94,66
29	5,185	6,602	5,717	74	33,76	42,99	37,23	119	87,31	111,16	96,27
30	5,549	7,065	6,118	75	34,68	44,13	38,24	120	88,78	113,04	97,90
31	5,925	7,544	6,534	76	35,61	45,34	39,27	121	90,27	114,93	99,53
32	6,313	8,038	6,961	77	36,55	46,54	40,30	122	91,77	116,84	101,18
33	6,714	8,549	7,404	78	37,51	47,46	41,36	123	93,27	118,76	102,85
34	7,127	9,075	7,859	79	38,48	48,99	42,43	124	94,80	120,70	104,53
35	7,550	9,616	8,328	80	39,46	50,24	43,51	125	96,33	122,66	106,22
36	7,990	14,300	8,811	81	40,45	51,50	44,60	135	112,36	143,00	123,90
37	8,440	16,820	9,313	82	41,46	52,78	45,71	145	129,63	168,20	142,93
38	8,903	11,335	9,817	83	42,47	54,08	46,83	155	148,12	188,60	163,33
39	9,378	11,940	10,342	84	43,50	55,39	47,97	165	167,85	213,72	185,08
40	9,865	12,560	10,877	85	44,54	56,72	49,12	175	188,82	240,41	208,20
41	10,36	13,20	11,44	86	45,60	58,06	50,28	185	211,01	268,67	232,64
42	10,88	13,85	11,99	87	46,67	59,42	51,46	195	234,44	298,50	258,51
43	11,40	14,51	12,57	88	47,74	60,79	52,64	205	259,10	329,90	285,69
44	11,94	15,20	13,16	89	48,84	62,18	53,85	215	284,99	362,87	314,25
45	12,48	15,90	13,77	90	49,94	63,59	55,07	225	312,12	397,41	344,16
46	13,05	16,61	14,39	91	51,06	65,01	-	235	341,46	433,52	375,44
47	13,62	17,34	15,02	92	52,18	66,44	-	245	370,03	471,20	408,07

PLANCHUELAS DE ACERO INOXIDABLE TABLA DE PESOS TEORICOS POR METRO



ANCHO		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"
mm.	pulg.	3.17	4.76	6.35	7.93	9.53	12.70	15.87	19.05	22.22	25.40	31.75
12.70	1/2	0.316	-	-	-	-	-	-	-	-	-	-
15.87	5/8	-	0.593	0.791	-	-	-	-	-	-	-	-
19.05	3/4	0.475	0.712	0.949	1.187	1.424	1.899	-	-	-	-	-
22.22	7/8	0.553	0.830	1.108	1.384	1.660	-	-	-	-	-	-
25.40	1	0.632	0.949	1.266	1.582	1.899	2.532	3.164	-	-	-	-
31.75	1 1/4	0.791	1.187	1.582	1.978	2.373	3.164	3.956	4.747	-	-	-
38.10	1 1/2	0.949	1.429	1.899	2.373	2.848	3.797	4.747	5.696	6.645	7.595	-
44.45	1 3/4	-	1.661	2.215	2.768	3.322	4.430	-	-	-	-	-
50.80	2	1.266	1.899	2.532	3.164	3.797	5.063	6.329	7.595	8.860	10.126	12.650
63.50	2 1/2	-	2.373	3.164	3.956	4.747	6.329	7.911	9.493	11.075	12.658	15.812
76.20	3	-	2.848	3.797	4.747	5.696	7.595	9.493	11.392	13.290	15.189	18.974
101.60	4	-	-	5.063	6.329	7.595	10.126	-	15.189	17.721	20.252	-

ANGULOS DE LADOS IGUALES DE ACERO INOXIDABLE TABLA DE PESOS TEORICOS POR METRO



DIMENSIONES	Peso teórico por m.	DIMENSIONES	Peso teórico por m.	DIMENSIONES	Peso teórico por m.
1/8 x 3/4	0.88	3/16 x 1 1/2	2.65	1/4 x 3	7.29
1/8 x 1	1.19	3/16 x 2	3.70	1/4 x 4	9.65
1/8 x 1 1/4	1.51	3/16 x 2 1/2	4.90	3/8 x 2	7.00
1/8 x 1 1/2	1.82	1/4 x 1 1/4	2.90	3/8 x 2 1/2	8.78
1/8 x 2	2.30	1/4 x 1 1/2	3.44	3/8 x 3	10.69
3/16 x 1	1.78	1/4 x 2	4.76	3/8 x 4	14.58
3/16 x 1 1/4	2.17	1/4 x 2 1/2	6.31	-	-

BULONES, TUERCAS, ARANDELAS, ESPARRAGOS, Y VARILLAS ROSCADAS DE ACERO INOXIDABLE. METRICAS Y WHITWORTH

