LEHMAN PIPE & SUPPLY

Stainless Pipe Specifications

ASTM No.	A-312	A-358	A-409	A-778
Normal Size Range	1/8" and larger	8" and larger	14" through 30"	3" through 48"
Weld-Bead Finish	May or may not be full finish	Bead may be removed Maximum 1/8" bead crown	Bead may be removed Maximum 1/16" bead crown No valley or groove	Bead may be removed Maximum 1/16"on either surface
Welding Process	Seamless or automatic welding No filler metal No X-ray required	Double welded Class 1, 2 & 5 Singled welded Class 3 & 4 Filler metal required all passes except root pass Class 4 100% X-ray to ASME UW-51 for Class 1, 3 & 4 No X-ray required Class 2 Spot X-ray to ASME UW-52 for Class 5	Manual or automatic Filler metal allowed No X-ray required	Manual or automatic welding Straight or spiral sear Filler metal allowed
Heat Treating	Annealed minimum 1900° F. and rapidly cooled	Annealed minimum 1900° F. and rapidly cooled unless marked "HT-____", "HT-O", or "HT-SO"	Annealed minimum 1900° F. and rapidly cooled unless marked "HT_____", "HT-O", or "HT-SO"	Not required
Cleaning	Pickled and Passivated	Pickled and Passivated	Pickled and Passivated	Pickled and Passivated
Hydrostatic Test	Required	Required unless waived and marked "N-H"	Required	Not required
Lengths	1/8" through 8" - 15' to 24' 10" and up - not specified Specific lengths Tol. -+ 1/4" - 0" Butt welds not allowed unless otherwise agreed upon	As agreed Butt welds allowed	22" and smaller - 9' to 12' Above 22" - minimum 5' Butt welds allowed	10' lengths and over Butt welds allowed
Variations in Outside Diameter & Ovality	See A-530	Outside diameter ± - 0.5% of nominal wraparound Ovality maximum 1% difference between major/minor outside diameter	Less than .188" wall ± 0.20% of specified outside diameter .188" wall and larger, ± 0.40% of specified outside diameter Ovality major/minor outside diameter maximum 1.5% difference between major/minor outside diameter	See A-530
Wall Thickness Variations	Maximum 12.5% under nominal	Maximum 0.01" under nominal	Maximum 0.018" under nominal	Maximum 12.5% under/over nominal
Alignment	Maximum 1/8" in 10 feet	Maximum 1/8" in 10 feet	Maximum 3/16" in 10 feet	Maximum 1/4" in 10 feet
End Preparation	Plain ends	Plain ends	Plain ends	Plain ends

LEHMAN PIPE & SUPPLY

Stainless Steel Pipe Sizes

THEORETICAL INTERNAL BURSTING PRESSURES*

Nominal I.P.S. (in.)	Nominal O.D. (in.)	SCHEDULE 5S		SCHEDULE 10S		SCHEDULE 40S		SCHEDULE 80S	
		Wall (in.)	Pressure (psi)	Wall (in.)	Pressure (psi)	Wall (in.)	Pressure (psi)	Wall (in.)	Pressure (psi)
¼	.405			.049	18150	.068	25175	.095	35175
½	.540			.065	18050	.088	24450	.119	33050
⅜	.675			.065	14450	.091	20225	.126	28000
½	.840	.065	11600	.083	14825	.109	19475	.147	26250
¾	1.050	.065	9275	.083	11850	.113	16150	.154	22000
1	1.315	.065	7425	.109	12450	.133	15175	.179	20425
1¼	1.660	.065	5875	.109	9850	.140	12550	.191	17250
1½	1.900	.065	5125	.109	8600	.145	11450	.200	16800
2	2.375	.065	4100	.109	6875	.154	9750	.218	13775
2½	2.875	.083	4325	.120	6250	.203	10650	.276	14400
3	3.500	.083	3550	.120	5150	.216	9250		
3½	4.000	.083	3100	.120	4500	.226	8475		
4	4.500	.083	2750	.120	4000	.237	7900		
5	5.563	.109	2950	.134	3625	.258	6950		
6	6.625	.109	2475	.134	3050	.280	6350		
8	8.625	.109	1900	.148	2575	.322	5600		
10	10.750	.134	1675	.165	2300	.365	5100		
12	12.750	.156	1825	.180	2125	.375	4400		
14	14.000	.156	1675	.188	2025				
16	16.000	.165	1550	.188	1775				
18	18.000	.165	1375	.188	1575				
20	20.000	.188	1400	.218	1625				
24	24.000	.218	1375	.250	1550				
30	30.000	.250	1250	.312	1550				

* Bursting pressure calculated using Barlow's formula: $P = \frac{2ST}{D}$

S = 75,000 psi fiber stress. T = nom. wall. D = nom. O.D.

LEHMAN PIPE & SUPPLY

Stainless Steel Pipe Sizes

A.S.A.PIPE SCHEDULES
DIMENSIONS & WEIGHTS IN POUNDS PER FOOT

Pipe Size	Outside Diameter (Inches)	5S	5	10S	10	20	30	40S & Stand-ard	40	60	80S & Extra Heavy	80	100	120	140	160	Double Extra Heavy
1/8	.405		.035 .1383	.049 .1863	.049 .1863			.068 .2447	.068 .2447		.095 .3145	.095 .3145					
1/4	.540		.049 .2570	.065 .3297	.065 .3297			.088 .4248	.088 .4248		.119 .5351	.119 .5351					
3/8	.675		.049 .3276	.065 .4235	.065 .4235			.091 .5676	.091 .5676		.126 .7388	.126 .7388					
1/2	.840	.065 .5383	.065 .5383	.083 .6710	.083 .6710			.109 .8510	.109 .8510		.147 1.088	.147 1.088				.187 1.304	.294 1.714
3/4	1.050	.065 .6383	.065 .6383	.083 .8572	.083 .8572			.113 1.131	.113 1.131		.154 1.474	.154 1.474				.218 1.937	.308 2.441
1	1.315	.065 .8678	.065 .8678	.109 1.404	.109 1.404			.133 1.679	.133 1.679		.179 2.172	.179 2.172				.250 2.844	.358 3.659
1-1/4	1.660	.065 1.107	.065 1.107	.109 1.806	.109 1.806			.140 2.273	.140 2.273		.191 2.997	.191 2.997				.250 3.765	.382 5.214
1-1/2	1.900	.065 1.274	.065 1.274	.109 2.085	.109 2.085			.145 2.718	.145 2.718		.200 3.631	.200 3.631				.281 4.859	.400 6.408
2	2.375	.065 1.604	.065 1.604	.109 2.638	.109 2.638			.154 3.653	.154 3.653		.218 5.022	.218 5.022				.343 7.444	.436 9.029
2-1/2	2.875	.083 2.475	.083 2.475	.120 3.531	.120 3.531			.203 5.793	.203 5.793		.276 7.661	.276 7.661				.375 10.01	.552 13.70
3	3.500	.083 3.029	.083 3.029	.120 4.332	.120 4.332			.216 7.576	.216 7.576		.300 10.25	.300 10.25				.437 14.32	.600 18.58
3-1/2	4.000	.083 3.472	.083 3.472	.120 4.973	.120 4.973			.226 9.109	.226 1.109		.318 12.51	.318 12.51					.636 22.85
4	4.500	.083 3.915	.083 3.915	.120 5.613	.120 5.613			.237 10.79	.237 10.79	.281 12.66	.337 14.98	.337 14.98		.437 19.01		.531 22.51	.674 27.54
4-1/2	5.000							.247 12.53			.355 17.61						.710 32.53
5	5.563	.109 6.349	.109 6.349	.134 7.770	.134 7.770			.258 14.62	.258 14.62		.375 20.78	.375 20.78		.500 27.04		.625 32.96	.750 38.55
6	6.625	.109 7.585	.109 7.858	.134 9.290	.134 9.290			.280 18.97	.280 18.97		.432 28.57	.432 28.57		.562 36.39		.718 45.30	.864 53.16
7	7.625							.301 23.57			.500 38.05						.875 63.08
8	8.625	.109 9.914	.109 9.914	.148 13.40	.148 13.40	.250 22.36	.277 24.70	.322 28.55	.322 28.55	.406 35.64	.500 43.39	.500 43.39	.593 50.87	.718 60.93	.812 67.76	.906 74.69	.875 72.42
9	9.625							.342 33.90			.500 48.72						
10	10.750	.134 15.19	.134 15.19	.165 18.70	.165 18.70	.250 28.04	.307 34.24	.365 40.48	.365 40.48	.500 54.74	.500 54.74	.593 64.33	.718 76.93	.843 89.20	1.000 104.1	1.125 115.7	
11	11.750							.375 45.55			.500 60.07						
12	12.750	.156 21.07	.165 22.18	.180 24.20	.180 24.20	.250 33.38	.330 43.77	.375 49.56	.406 53.53	.562 73.16	.500 65.42	.687 88.51	.843 107.2	1.000 125.5	1.125 139.7	1.312 160.3	
14	14.000	.156 23.07		.188 27.73	.250 36.71	.312 45.68	.375 54.57	.375 54.57	.437 63.67	.593 84.91	.500 72.09	.750 106.1	.937 130.7	1.093 150.7	1.250 170.2	1.406 189.1	
16	16.000	.165 27.90		.188 31.75	.250 42.05	.312 52.36	.375 62.58	.375 62.58	.500 82.77	.656 107.5	.500 82.77	.843 136.5	1.031 164.8	1.218 192.3	1.437 223.5	1.593 145.1	
18	18.000	.165 31.43		.188 35.76	.250 47.39	.312 59.03	.437 82.06	.375 70.59	.562 104.8	.750 138.2	.500 93.45	.937 170.8	1.156 208.0	1.375 244.1	1.562 274.2	1.781 308.5	
20	20.000	.188 39.78		.218 46.05	.250 52.73	.375 78.60	.500 104.1	.375 78.60	.593 122.9	.812 166.4	.500 104.1	1.031 208.9	1.280 256.1	1.500 296.4	1.750 341.1	1.968 379.0	
24	24.000	.218 55.37		.250 63.41	.250 63.41	.375 94.62	.562 140.8	.375 94.62	.687 171.2	.968 238.1	.500 125.5	1.218 296.4	1.531 367.4	1.182 429.4	2.062 483.1	2.343 541.9	

LEHMAN PIPE & SUPPLY

Sanitary Welded lube Specifications

We inventory a large quantity of welded and seamless stainless tubing to meet your immediate needs. Readily available in 20 foot lengths from ¼" OD to 6" OD, are types 304L and 316L - produced to ASTM specifications A249, A269 or A270. Other diameters, specifications and lengths available on special order. Large orders of tubing are packaged in tri-wall corrugated cartons equipped with wooden ends.

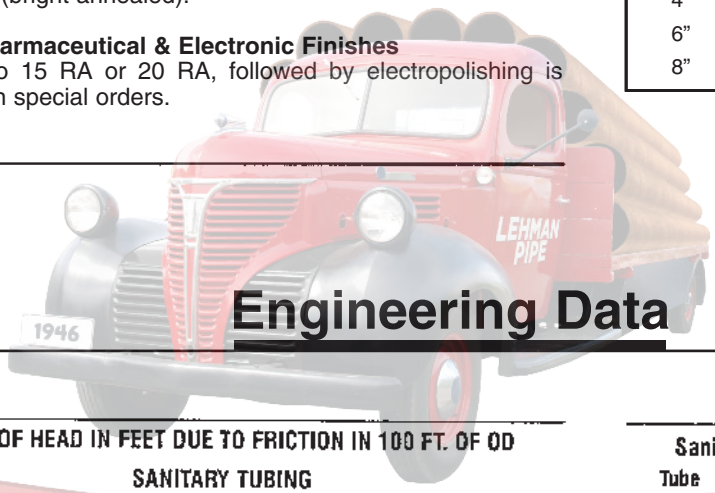
POLISH ID/OD Sanitary Finish
Polished to 180 grit OD and ID meeting or exceeding 3A standards. After polishing, special attention is given to cleanliness by washing and packaging in individual sealed plastic sleeves.

Other Finishes
Tubing also available in ID or OD polish only or provided unpolished (bright annealed).

Special Pharmaceutical & Electronic Finishes
ID polish to 15 RA or 20 RA, followed by electropolishing is available on special orders.

STAINLESS STEEL TUBING SPECIFICATIONS

Size (Tube OD)	Gauge	Wall	lbs/ft
1/2"	18	.049	.2365
3/4"	18	.049	.3670
1"	18	.049	.4980
1"	16	.065	.6490
11/2"	16	.065	.9962
2"	16	.065	1.3430
2 1/2"	16	.065	1.6900
3"	16	.065	2.0370
4"	14	.083	3.4720
6"	12	.109	6.923
8"	12	.109	9.300



Engineering Data

***LOSS OF HEAD IN FEET DUE TO FRICTION IN 100 FT. OF OD SANITARY TUBING**

.S.	Lbs.	Lbs.						
GPM	Min.	Hr.	1	1½	2	2½	3	4
5	42	2520	1.93	.27				
10	83	4980	10.26	1.08				
15	125	7500	16.05	2.23				
20	167	10020	28.29	3.81				
25	208	12480	43.70	5.02				
30	250	15000	63.25	8.26				
35	292	17520	85.10	11.61				
40	333	19980		14.99	.20			
45	374	22440		18.74	1.76		.75	
50	416	24960			5.61		1.86	.80
75	624	37440			12.23		4.14	1.70
100	831	49860			21.75		7.36	3.01
.80								
125	1038	62280			34.27		11.24	4.57
1.21								
150	1245	74700			48.76		16.10	6.55
1.72								
75	1425	85500				21.75	8.55	2.28
200	1659	99540				28.68	11.59	2.90

*Established on products with viscosity and density similar to water or milk.

Sanitary Tube Volume Per Foot

Tube Size	U.S. Gallon	Imp. Gallons	Cu. In.
1	.033	.0275	7.67
1½	.080	.067	18.52
2	.143	.119	32.95
2½	.229	.191	52.94
3	.336	.280	77.63
4	.611	.500	141.16

***90° Elbow Friction Equivalent**

1"	ELL =	6 Ft.	Straight Pipe
1½"	ELL =	8 Ft.	" "
2"	ELL =	8 Ft.	" "
2½"	ELL =	11 Ft.	" "
3"	ELL =	15 Ft.	" "
4"	ELL =	15 Ft.	" "

Recommended Tube Size Low Viscosity Products

0 - 4250 Lbs. per Hour	1"	
4250 - 14500	"	1½"
14500 - 33400	"	2"
33400 - 51900	"	2½"
51900 - 82500	"	3"
Greater than 82500	"	4"

NOTE:
For Higher Viscosity Products Increase Tube Size. Our Engineering Department's Facilities are at your Service.

LEHMAN PIPE & SUPPLY

THEORETICAL INTERNAL BURSTING PRESSURES

Theoretical Bursting Pressure, in pounds for welded stainless tubes. Based on Barlow's Formula: $P = \frac{2ST}{D}$

P Bursting pressure in psi. D = Outside diameter of tube in inches. S = Fiber stress of 75,000 psi ultimate for bursting pressure. T = Wall thickness.

The mill pressures used when hydrotesting are usually based on fiber stress of 20,000 psi (26.7% of burst pressures listed below) unless specifications require other pressures.

Specifications and code rulings assign maximum stresses in use which are dependent on factors such as inspection requirements, temperatures encountered, service life expected and alloy.

WALL THICKNESS — INCHES & B.W.G.

O.D. Inches	.020 25	.022 24	.025 23	.028 22	.032 21	.035 20	.042 19	.049 18	.058 17	.065 16	.072 15	.083 14	.095 13	.109 12	.120 11	.134 10	.148 9	.165 8
⅛	24,000	26,400	30,000	33,600	38,400	42,000	50,400	58,800										
¼	12,000	13,200	15,000	16,800	19,200	21,000	25,200	29,400	34,800	39,000								
⅜	8,000	8,800	10,000	11,200	12,800	14,000	16,800	19,600	23,200	26,000								
½	6,000	6,600	7,500	8,400	9,600	10,500	12,600	14,700	17,400	19,500	21,600	24,900	28,500					
⅝	4,800	5,300	6,000	6,725	7,675	8,400	10,075	11,750	13,925	15,600	17,275	19,925	22,800					
¾	4,000	4,400	5,000	5,600	6,400	7,000	8,400	9,800	11,600	13,000	14,400	16,600	19,000	21,800				
⅞	3,425	3,750	4,300	4,800	5,475	6,000	7,200	8,400	9,950	11,150	12,350	14,225	16,275	18,675				
1	3,000	3,300	3,750	4,200	4,800	5,250	6,300	7,350	8,700	9,750	10,800	12,450	14,250	16,350	18,000	20,100	22,200	
1⅛			3,325	3,750	4,275	4,650	5,600	6,550	7,750	8,650	9,600	11,050	12,650	14,550	16,000	17,875	19,725	
1¼			3,000	3,350	3,850	4,200	5,050	5,875	6,950	7,800	8,650	9,950	11,400	13,075	14,400	16,075	17,750	
1⅜			2,725	3,050	3,500	3,825	4,575	5,350	6,325	7,100	7,850	9,050	10,350	11,900	13,100	14,625	16,150	
1½			2,500	2,800	3,200	3,500	4,200	4,900	5,800	6,500	7,200	8,300	9,500	10,900	12,000	13,400	14,800	
1⅝			2,300	2,575	2,950	3,225	3,875	4,525	5,350	6,000	6,650	7,650	8,775	10,050	11,075	12,375	13,650	
1¾			2,150	2,400	2,750	3,000	3,600	4,200	4,975	5,575	6,175	7,125	8,150	9,350	10,275	11,475	12,675	
1⅞						2,800	3,350	3,925	4,650	5,200	5,750	6,650	7,600	8,725	9,600	10,725	11,850	
2						2,625	3,150	3,675	4,350	4,875	5,400	6,225	7,125	8,175	9,000	10,050	11,100	
2⅛						2,475	2,975	3,450	4,100	4,600	5,075	5,850	6,700	7,700	8,475	9,450	10,450	
2¼							2,800	3,275	3,875	4,350	4,800	5,550	6,350	7,275	8,000	8,975	9,875	
2⅜							2,650	3,100	3,675	4,100	4,550	5,250	6,000	6,900	7,575	8,475	9,350	10,425
2½							2,525	2,950	3,475	3,900	4,325	4,975	5,700	6,550	7,200	8,050	8,875	9,900
2⅝							2,400	2,800	3,325	3,725	4,125	4,750	5,425	6,225	6,850	7,650	8,450	9,425
2¾								2,675	3,150	3,550	3,925	4,525	5,175	5,950	6,550	7,300	8,075	9,000
2⅞								2,550	3,025	3,400	3,750	4,325	4,950	5,675	6,250	7,000	7,725	8,600
3								2,450	2,900	3,250	3,600	4,150	4,750	5,450	6,000	6,700	7,400	8,250
3⅛								2,350	2,775	3,125	3,450	3,975	4,550	5,225	5,550	6,425	7,100	7,925
3¼								2,250	2,675	3,000	3,325	3,825	4,375	5,025	5,525	6,175	6,825	7,600
3⅜								2,175	2,575	2,875	3,200	3,675	4,225	4,850	5,325	5,950	6,575	7,325
3½								2,100	2,475	2,775	3,075	3,550	4,075	4,675	5,150	5,750	6,350	7,075
3⅝								2,025	2,400	2,675	2,975	3,425	3,925	4,500	4,950	5,550	6,100	6,825

O.D. Inches	.049 18	.058 17	.065 16	.072 15	.083 14	.095 13	.109 12	.120 11	.134 10	.148 9	.165 8	.180 7	.203 6	.220 5	.238 4	.259 3	.284 2	.300 1
3¾	1,950	2,325	2,600	2,875	3,325	3,800	4,350	4,800	5,350	5,900	6,600	7,200	8,125	8,800				
3⅞	1,900	2,250	2,500	2,775	3,200	3,675	4,200	4,650	5,175	5,725	6,375	6,975	7,850	8,500				
4	1,825	2,175	2,425	2,700	3,100	4,075	4,090	4,500	5,025	5,550	6,175	6,750	7,600	8,250				
4¼	1,725	2,050	2,300	2,550	2,925	3,350	3,850	4,225	4,725	5,225	5,825	6,350	7,150	7,750				
4½	1,625	1,925	2,150	2,400	2,750	3,150	3,625	4,000	4,450	4,925	5,500	6,000	6,750	7,325	7,925			
4¾	1,550	1,825	2,050	2,275	2,625	3,000	3,450	3,775	4,225	4,675	5,200	5,675	6,400	6,950	7,500			
5	1,475	1,750	1,950	2,150	2,500	2,850	3,275	3,600	4,025	4,450	4,950	5,400	6,100	6,600	7,150			
5¼	1,400	1,650	1,850	2,050	2,375	2,700	3,100	3,425	3,825	4,225	4,700	5,150	5,800	6,275	6,800			
5½	1,325	1,575	1,775	1,950	2,250	2,600	2,975	3,275	3,650	4,025	4,500	4,900	5,550	6,000	6,500	7,050		
5¾	1,275	1,500	1,700	1,875	2,150	2,475	2,850	3,125	3,500	3,850	4,300	4,700	5,300	5,725	6,200	6,750		
6	1,220	1,450	1,625	1,800	2,075	2,375	2,325	3,000	3,350	3,700	4,125	4,500	5,075	5,500	5,950	6,475	7,100	
8	925	1,100	1,225	1,350	1,550	1,775	2,050	2,250	2,525	2,775	3,100	3,375	3,800	4,125	4,475	4,850	5,325	5,625
10	750	875	975	1,075	1,250	1,425	1,625	1,800	2,000	2,225	2,475	2,700	3,050	3,300	3,575	3,875	4,250	4,500
12	625	725	825	900	1,050	1,200	1,375	1,500	1,675	1,850	2,075	2,250	2,550	2,750	2,975	3,250	3,550	3,750
14	525	625	700	775	900	1,025	1,175	1,300	1,450	1,600	1,775	1,925	2,175	2,350	2,550	2,775	3,050	3,225
16	450	550	600	675	775	900	1,025	1,125	1,250	1,400	1,550	1,700	1,900	2,050	2,225	2,425	2,675	2,825
18	400	475	550	600	700	800	900	1,000	1,125	1,250	1,375	1,500	1,700	1,850	1,975	2,150	2,350	2,500
20	375	450	500	550	625	725	825	900	1,000	1,100	1,250	1,350	1,525	1,650	1,775	1,950	2,125	2,250
24	300	375	400	450	525	600	675	750	850	925	1,025	1,125	1,250	1,375	1,475	1,625	1,775	1,875
30	250	300	325	350	425	475	550	600	675	750	825	900	1,025	1,100	1,200	1,300	1,425	1,500

Rev. 08/03

LEHMAN PIPE & SUPPLY

Stainless Steel lubing

THEORETICAL WEIGHTS*

WALL THICKNESS		OUTSIDE DIAMETER IN INCHES AND POUNDS PER FOOT											
Fraction or B.W.G.	Decimal	1/8 .125	3/16 .187	1/4 .250	5/16 .313	3/8 .375	7/16 .438	1/2 .500	9/16 .563	5/8 .625	11/16 .688	3/4 .750	13/16 .813
31	.010	.0124	.0192	.0258	.0327	.0394	.0461	.0528	.0597	.0663	.0731	.0797	.0866
30	.012	.0146	.0228	.0308	.0390	.0469	.0551	.0631	.0713	.0793	.0874	.0955	.1037
29	.013	.0157	.0245	.0332	.0421	.0508	.0596	.0682	.0771	.0858	.0946	.1033	.1121
28	.014	.0167	.0262	.0356	.0451	.0545	.0640	.0734	.0829	.0923	.1017	.1110	.1206
27 or 1/64	.016	.0188	.0297	.0404	.0513	.0619	.0728	.0835	.0944	.1051	.1159	.1266	.1375
26	.018	.0208	.0330	.0450	.0572	.0692	.0815	.0936	.1058	.1178	.1300	.1420	.1542
25	.020	.0226	.0362	.0496	.0632	.0765	.0901	.1035	.1171	.1304	.1440	.1574	.1710
24	.022	.0244	.0394	.0541	.0690	.0837	.0986	.1133	.1283	.1430	.1580	.1727	.1877
23	.025	.0269	.0439	.0607	.0776	.0944	.1113	.1280	.1450	.1617	.1787	.1954	.2124
22	.028	.0293	.0482	.0670	.0860	.1048	.1238	.1424	.1615	.1802	.1993	.2179	.2369
21	.032	.0321	.0538	.0752	.0969	.1183	.1401	.1614	.1832	.2046	.2263	.2477	.2694
20	.035	.0339	.0577	.0812	.1049	.1283	.1520	.1754	.1993	.2226	.2464	.2698	.2936
19	.042			.0942	.1227	.1508	.1793	.2073	.2359	.2640	.2925	.3206	.3491
18	.049			.1062	.1395	.1722	.2055	.2382	.2715	.3043	.3376	.3703	.4036
17	.058			.1200	.1595	.1983	.2376	.2764	.3158	.3545	.3939	.4328	.4721
1/16	.063			.1270	.1698	.2119	.2547	.2968	.3396	.3817	.4245	.4666	.5094
16	.065			.1296	.1738	.2172	.2605	.3049	.3490	.3925	.4366	.4800	.5242
15	.072							.3322	.3812	.4292	.4782	.5263	.5752
14	.083							.3731	.4295	.4851	.5414	.5969	.6532
13	.095									.5428	.6074	.6709	.7354
12 or 3/64	.109											.7533	.8273
11	.120												
1/8	.125												
10	.134												
9/64	.141												
9	.148												
5/32	.156												
8	.165												
7	.180												
6 or 13/64	.203												
5	.220												
4	.238												
1/4	.250												
3	.259												
9/32	.281												
2	.284												
1	.300												
5/16	.313												

*The weights on these and the following pages were calculated according to the formula:

$W = 10.78 (D-t) \times t$

where

W = the weight in pounds, of one foot of tubing

D = the outside diameter of the tube in inches, and

t = the wall thickness in inches

This formula involves the density of tubing material. The formula, and therefore, the values given in these tables apply to types 302, 304, 305, 308, 309, 310, 316, 317, and 321. For other materials, multiply the figure in the tables by the following factors:

Types 347 and 348	1.014
Type 409	.972
Hastelloy B	1.168
Hastelloy C	1.129
Incoloy 800	1.014
Incoloy 825	1.028
Monel 400	1.115
Titanium	0.570
Low Carbon Steel	0.993

LEHMAN PIPE & SUPPLY

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THEORETICAL WEIGHTS (continued)

WALL THICKNESS		OUTSIDE DIAMETER IN INCHES AND POUNDS PER FOOT											
Fraction or B.W.G.	Decimal	⅞ .875	15/16 .938	1 1.000	1 1/16 1.063	1 1/8 1.125	1 3/16 1.188	1 1/4 1.250	1 5/16 1.313	1 3/8 1.375	1 7/16 1.438	1 ½ 1.500	1 5/8 1.625
31	.010	.0933	.1000	.1067	.1136	.1202	.1270	.1336	.1405				
30	.012	.1116	.1198	.1278	.1360	.1439	.1521	.1602	.1683	.1763	.1845		
29	.013	.1208	.1296	.1383	.1472	.1558	.1646	.1733	.1822	.1909	.1997		
28	.014	.1299	.1395	.1488	.1583	.1677	.1772	.1865	.1960	.2054	.2149	.2243	
27 or 1/64	.016	.1482	.1591	.1697	.1806	.1913	.2022	.2129	.2237	.2344	.2453	.2560	.2775
26	.018	.1663	.1786	.1906	.2028	.2148	.2270	.2390	.2514	.2634	.2756	.2876	.3118
25	.020	.1843	.1980	.2113	.2249	.2382	.2519	.2652	.2788	.2921	.3058	.3191	.3460
24	.022	.2023	.2172	.2320	.2469	.2617	.2766	.2912	.3062	.3209	.3359	.3506	.3802
23	.025	.2291	.2461	.2628	.2797	.2965	.3134	.3302	.3472	.3639	.3809	.3975	.4312
22	.028	.2557	.2747	.2935	.3124	.3311	.3502	.3689	.3879	.4066	.4256	.4444	.4821
21	.032	.2908	.3125	.3339	.3557	.3770	.3988	.4202	.4419	.4634	.4851	.5065	.5496
20	.035	.3170	.3407	.3641	.3879	.4113	.4351	.4585	.4822	.5056	.5294	.5528	.5999
19	.042	.3772	.4057	.4338	.4623	.4904	.5189	.5470	.5755	.6036	.6321	.6602	.7168
18	.049	.4364	.4696	.5024	.5356	.5684	.6018	.6345	.6678	.7005	.7338	.7665	.8326
17	.058	.5109	.5503	.5890	.6284	.6672	.7066	.7454	.7848	.8235	.8629	.9017	.9799
1/16	.063	.5515	.5943	.6365	.6792	.7214	.7641	.8063	.8491	.8912	.9340	.9761	1.061
16	.065	.5676	.6117	.6553	.6994	.7429	.7870	.8304	.8746	.9180	.9621	1.006	1.093
15	.072	.6234	.6722	.7204	.7692	.8167	.8663	.9144	.9634	1.011	1.060	1.108	1.205
14	.083	.7088	.7651	.8206	.8769	.9318	.9888	1.044	1.100	1.156	1.212	1.268	1.380
13	.095	.7989	.8634	.9269	.9914	1.055	1.119	1.183	1.242	1.311	1.376	1.439	1.567
12 or 3/64	.109	.8995	.9743	1.047	1.121	1.194	1.268	1.341	1.415	1.488	1.562	1.634	1.782
11	.120					1.300	1.382	1.462	1.543	1.623	1.705	1.786	1.947
1/8	.125					1.347	1.432	1.516	1.601	1.685	1.770	1.853	2.022
10	.134					1.431	1.522	1.612	1.703	1.793	1.884	1.973	2.154
9/64	.141						1.592	1.686	1.782	1.876	1.971	2.065	2.256
9	.148												
5/32	.156												
8	.165												
7	.180												
6 or 13/64	.203												
5	.220												
4	.238												
1/4	.250												
3	.259												
9/32	.281												
2	.284												
1	.300												
5/16	.313												

LEHMAN PIPE & SUPPLY

Stainless Steel lubing

THEORETICAL WEIGHTS (continued)

WALL THICKNESS		OUTSIDE DIAMETER IN INCHES AND POUNDS PER FOOT											
Fraction or B.W.G.	Decimal	1¾ 1.750	1⅞ 1.875	2 2.000	2⅛ 2.125	2¼ 2.250	2⅜ 2.375	2½ 2.500	2⅝ 2.625	2¾ 2.750	2⅞ 2.875	3 3.000	3⅛ 3.125
31	.010												
30	.012												
29	.013												
28	.014												
27 or 1/64	.016	.2991	.3206	.3422									
26	.018	.3361	.3603	.3846									
25	.020	.3730	.3999	.4269	.4538	.4808	.5077	.5347	.5616	.5886	.6155	.6425	.6694
24	.022	.4098	.4395	.4692	.4987	.5284	.5580	.5877	.6173	.6470	.6766	.7063	.7359
23	.025	.4650	.4987	.5323	.5660	.5996	.6333	.6670	.7007	.7344	.7681	.8018	.8355
22	.028	.5198	.5575	.5953	.6330	.6708	.7085	.7462	.7839	.8216	.8593	.8971	.9348
21	.032	.5927	.6359	.6790	.7221	.7652	.8083	.8515	.8945	.9376	.9807	1.024	1.067
20	.035	.6472	.6943	.7415	.7886	.8359	.8830	.9301	.9773	1.025	1.072	1.118	1.166
19	.042	.7734	.8300	.8866	.9433	.9998	1.056	1.113	1.170	1.226	1.283	1.340	1.396
18	.049	.8986	.9647	1.031	1.096	1.163	1.228	1.295	1.361	1.426	1.493	1.559	1.625
17	.058	1.058	1.137	1.214	1.292	1.371	1.449	1.527	1.605	1.684	1.761	1.839	1.918
1/16	.063	1.146	1.230	1.315	1.400	1.486	1.571	1.655	1.740	1.825	1.910	1.995	2.079
16	.065	1.181	1.269	1.356	1.443	1.531	1.619	1.706	1.794	1.882	1.969	2.056	2.144
15	.072	1.302	1.399	1.497	1.594	1.691	1.788	1.885	1.982	2.078	2.175	2.273	2.370
14	.083	1.485	1.604	1.715	1.827	1.939	2.051	2.163	2.274	2.386	2.498	2.610	2.723
13	.095	1.695	1.823	1.951	2.079	2.207	2.335	2.463	2.591	2.719	2.848	2.975	3.103
12 or 3/64	.109	1.928	2.075	2.222	2.369	2.516	2.663	2.809	2.957	3.103	3.250	3.397	3.544
11	.120	2.109	2.270	2.432	2.594	2.756	2.917	3.079	3.240	3.403	3.564	3.726	3.887
1/8	.125	2.190	2.358	2.527	2.695	2.864	3.032	3.201	3.370	3.537	3.706	3.874	4.043
10	.134	2.335	2.516	2.695	2.876	3.057	3.237	3.418	3.599	3.779	3.960	4.141	4.321
9/64	.141	2.446	2.636	2.825	3.016	3.206	3.395	3.583	3.780	3.970	4.150	4.350	
9	.148			2.955	3.155	3.354	3.553	3.753	3.952	4.152	4.351	4.551	4.751
5/32	.156						3.732	3.942	4.152	4.362	4.572	4.783	4.994
8	.165						3.931	4.153	4.376	4.598	4.820		5.265
7	.180												
6 or 11/64	.203												
5	.220												
4	.238												
1/4	.250												
3	.259												
9/32	.281												
2	.284												
1	.300												
5/16	.313												

LEHMAN PIPE & SUPPLY

Stainless Steel lubing

THEORETICAL WEIGHTS (continued)

WALL THICKNESS		OUTSIDE DIAMETER IN INCHES AND POUNDS PER FOOT											
Fraction or B.W.G.	Decimal	3¼ 3.250	3⅜ 3.375	3½ 3.500	3⅝ 3.625	3¾ 3.750	3⅞ 3.875	4 4.000	4⅛ 4.125	4¼ 4.250	4⅜ 4.375	4½ 4.500	4⅝ 4.625
31	.010												
30	.012												
29	.013												
28	.014												
27 or 1/64	.016												
26	.018												
25	.020	.6964	.7233	.7503	.7772	.8042	.8311	.8581					
24	.022	.7656	.7952	.8248	.8545	.8841	.9138	.9434					
23	.025	.8691	.9028	.9365	.9702	1.004	1.038	1.071					
22	.028	.9725	1.010	1.048	1.086	1.123	1.161	1.199	1.237	1.274	1.312	1.350	1.388
21	.032	1.110	1.153	1.196	1.239	1.283	1.326	1.369	1.412	1.455	1.498	1.541	1.584
20	.035	1.213	1.260	1.307	1.355	1.402	1.449	1.496	1.543	1.591	1.637	1.685	1.732
19	.042	1.453	1.509	1.566	1.622	1.679	1.735	1.792	1.848	1.906	1.961	2.019	2.075
18	.049	1.691	1.757	1.823	1.889	1.955	2.021	2.088	2.153	2.219	2.285	2.351	2.418
17	.058	1.996	2.074	2.152	2.231	2.309	2.386	2.465	2.543	2.622	2.699	2.778	2.856
1/16	.063	2.164	2.249	2.335	2.420	2.504	2.589	2.674	2.759	2.844	2.928	3.013	3.098
16	.065	2.232	2.320	2.408	2.494	2.582	2.670	2.758	2.845	2.932	3.020	3.108	3.196
15	.072	2.467	2.564	2.661	2.758	2.855	2.952	3.049	3.147	3.243	3.340	3.437	3.534
14	.083	2.834	2.946	3.058	3.170	3.282	3.393	3.505	3.617	3.729	3.841	3.952	4.064
13	.095	3.231	3.360	3.488	3.616	3.743	3.871	4.000	4.128	4.256	4.383	4.511	4.640
12 or 7/64	.109	3.692	3.838	3.985	4.132	4.279	4.426	4.573	4.719	4.867	5.013	5.160	5.307
11	.120	4.049	4.212	4.373	4.535	4.696	4.858	5.020	5.182	5.343	5.505	5.666	5.829
1/8	.125	4.212	4.380	4.549	4.717	4.885	5.053	5.222	5.391	5.559	5.728	5.896	6.065
10	.134	4.501	4.682	4.863	5.043	5.224	5.405	5.585	5.766	5.946	6.127	6.307	6.488
9/64	.141												
9	.148	4.949	5.149	5.341	5.548	5.747	5.947	6.147	6.346	6.545	6.744	6.944	7.144
5/32	.156	5.204	5.414	5.624	5.835	6.045	6.255	6.465	6.676	6.886	7.096	7.306	7.517
8	.165	5.488	5.711	5.933	6.155	6.377	6.600	6.822	7.044	7.267	7.489	7.711	7.934
7	.180												
6 or 13/64	.203												
5	.220												
4	.238												
1/4	.250												
3	.259												
9/32	.281												
2	.284												
1	.300												
5/16	.313												

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LEHMAN PIPE & SUPPLY

Stainless Steel lubing

THEORETICAL WEIGHTS (continued)

WALL THICKNESS		OUTSIDE DIAMETER IN INCHES AND POUNDS PER FOOT											
Fraction or B.W.G.	Decimal	4¾ 4.750	4⅞ 4.875	5 5.000	5⅛ 5.125	5¼ 5.250	5⅜ 5.375	5½ 5.500	5⅝ 5.625	5¾ 5.750	5⅞ 5.875	6 6.000	6⅛ 6.125
31	.010												
30	.012												
29	.013												
28	.014												
27 or 1/64	.016												
26	.018												
25	.020												
24	.022												
23	.025												
22	.028	1.425	1.463	1.501									
21	.032	1.628	1.671	1.714									
20	.035	1.779	1.826	1.874	1.921	1.967	2.015	2.062	2.109	2.156	2.203	2.251	
19	.042	2.132	2.188	2.245	2.302	2.358	2.415	2.471	2.528	2.584	2.641	2.698	
18	.049	2.483	2.550	2.616	2.681	2.748	2.813	2.879	2.945	3.011	3.077	3.143	
17	.058	2.934	3.012	3.090	3.169	3.246	3.325	3.403	3.481	3.559	3.637	3.715	
1/16	.063	3.184	3.269	3.353	3.438	3.523	3.608	3.693	3.777	3.862	3.948	4.033	4.118
16	.065	3.283	3.371	3.458	3.546	3.633	3.721	3.809	3.897	3.984	4.071	4.159	4.247
15	.072	3.631	3.728	3.825	3.923	4.020	4.117	4.214	4.310	4.407	4.504	4.601	4.699
14	.083	4.176	4.288	4.400	4.511	4.623	4.735	4.848	4.960	5.071	5.183	5.295	5.407
13	.095	4.768	4.896	5.024	5.151	5.280	5.408	5.536	5.664	5.792	5.920	6.048	6.176
12 or 3/64	.109	5.454	5.601	5.748	5.894	6.042	6.188	6.336	6.482	6.629	6.776	6.923	7.069
11	.120	5.990	6.152	6.313	6.475	6.637	6.799	6.960	7.122	7.283	7.446	7.607	7.769
1/8	.125	6.233	6.401	6.570	6.738	6.907	7.075	7.244	7.413	7.580	7.749	7.917	8.086
10	.134	6.669	6.849	7.030	7.211	7.391	7.571	7.752	7.933	8.113	8.294	8.475	8.655
9/64	.141												
9	.148	7.343	7.543	7.742	7.942	8.141	8.340	8.540	8.739	8.939	9.138	9.338	9.537
5/32	.156	7.727	7.937	8.147	8.358	8.568	8.778	8.987	9.197	9.407	9.618	9.828	10.04
8	.165	8.157	8.379	8.601	8.824	9.046	9.268	9.489	9.712	9.934	10.16	10.38	10.60
7	.180							10.32	10.57	10.81	11.05	11.29	11.54
6 or 11/64	.203							11.59	11.87	12.14	12.41	12.69	12.96
5	.220							12.52	12.82	13.11	13.41	13.71	14.00
4	.238							13.50	13.82	14.14	14.46	14.78	15.10
1/4	.250												
3	.259												
9/32	.281												
2	.284												
1	.300												
5/16	.313												

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