
PrimroseAlloys

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STRONGLY POSITIONED **FOR THE FUTURE**

Welcome to Primrose Alloys, Inc.! We are a global metals trading company. We exist to provide exceptional value and service to our customers and suppliers. Our people are focused on the success of each and every one of its customers and suppliers via the delivery of expert knowledge and the competitiveness of our products and services. We pride ourselves on strong execution that our customers and suppliers can count on.

In only a few short years we have successfully built a team of professionals that source from the best mills around the world, delivering to a wide range of customers covering the following industries:

- Oil / Energy
- Aerospace
- Alternative Energy (Wind Power)
- Automotive
- Agricultural
- Sporting Goods
- Appliances
- Heavy trucks and equipment
- Recreational vehicles
- Hydraulic cylinders

Our success has been built on strong relationships and strong results.

If you are a current customer or supplier, we thank you for being part of our success. We look forward to being part of your future success.

If you are a prospective customer or supplier, we look forward to discussing and developing a new working relationship.

Recognizing the progress our company has made in a few short years, backed by the experience, skills and commitment of our people, we believe Primrose Alloys, Inc. is strongly positioned to be your metals trading company for the future.

CRAIG YARDE, CEO

BOB WREN, PRESIDENT

HISTORY

Craig Yarde and Bob Wren founded Primrose Alloys in 2007 when they joined forces to set up a leading metals trading company specialized in stainless steel, carbon, alloy and aluminum. Craig and Bob shared a common vision when approaching their new metals business: building a competent team around them and working solely with the strongest mills in the world. Thanks to this approach, Primrose Alloys is able to offer the highest quality material within the most reliable lead-times and at the most competitive prices. Within but a few months of operating, Primrose Alloys was closing orders with the industry's most respected metals distributors and high-profile companies and delivering those orders on time.

BOB WREN AND CRAIG YARDE

BIOGRAPHIES

Craig Yarde, *CEO*

Craig graduated from New York University in 1997 and was Director of Purchasing for Yarde Metals in Connecticut from 1998 to 2006. During that time, he oversaw Yarde's USD 90 million stainless and aluminum inventory enabling the growth of group sales from USD 150 million to USD 400 million. Craig was instrumental in building key relationships with mills in China, Brazil and Taiwan. In 2007, Craig founded Primrose Alloys with Bob Wren.

Bob Wren, *President*

Bob Wren graduated from USC in 1985 and joined the Sumitomo Corporation in 1986 where he worked until 1994, spending two years in Japan. From 1995 to 2007, Bob worked in steel trading at Ferrostal, TrefilArbed and Norca. During his career, Bob forged a very strong relationship with a wide array of stainless and carbon steel mills around the globe. These relationships were at the very foundation of Primrose Alloys.

Steve Song, *Metallurgist*

Steve began his career at Sammi (now Posco) as a technical engineer. From there, Steve moved to Haiduk where he was a senior export manager. Between 1995 and 2007, Steve worked alongside Bob Wren in the steel trading business at Ferrostal, Treffil, Arbed and Norca. Steve now runs the Korean office for Primrose Alloys, leveraging all his experience and technical knowledge.

Perry Reyes, *CFO*

Perry is a CPA and a 1991 graduate of DePaul University in Chicago. He began his career at Arthur Andersen LLP where he consulted in the Utilities and Telecommunications practice. Over the past 10+ years he has served in various roles as Controller and/or CFO in public and private companies such as Prism Mortgage and the Royal Bank of Canada. Perry joined Primrose Alloys in January 2008, and is excited to work with such a veteran, professional and energetic management team.

PRIMROSE PRODUCTS

Stainless Steel Pipe & Tube

Carbon Steel Pipe & Tube

Fittings & Flanges

Aluminum Tubing, Bar & Rod

PRIMROSE PRODUCTS
STAINLESS STEEL PIPE & TUBE

ASTM	A	199	Seamless Cold-Drawn Intermediate Alloy-Steel Heat Exchanger & Condenser Tube
ASTM	A	200	Seamless Intermediate Alloy-Steel Still Tubes
ASTM	A	213	Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and Heat-Exchanger Tubes
ASTM	A	249	Welded Austenitic Steel Boiler, Superheater, Heat-Exchanger, and Condenser Tubes
ASTM	A	250	Electric-Resistance-Welded Ferritic Alloy-Steel Boiler and Superheater Tubes
ASTM	A	268	Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing
ASTM	A	269	Seamless and Welded Austenitic Stainless Steel Tubing for General Service
ASTM	A	270	Seamless and Welded Austenitic and Ferritic Stainless Steel Sanitary Tubing
ASTM	A	312	Seamless, Welded and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM	A	358	Electric-Fusion-Welded Austenitic Chromium-Nickel Alloys Steel Pipe for High-Temperature Service
ASTM	A	376	Seamless Austenitic Steel Pipe for High-Temperature Central-Station Service
ASTM	A	405	Seamless Ferritic and Austenitic Alloy-Steel Pipe Specially Heat Treated for High-Temperature Service
ASTM	A	498	Seamless and Welded Carbon, Ferritic, and Austenitic Alloy Steel Heat Exchanger Tubes with Integral Fins
ASTM	A	511	Seamless Stainless Steel Mechanical Tubing
ASTM	A	554	Welded Stainless Steel Mechanical Tubing
ASTM	A	632	Seamless and Welded Austenitic Stainless Steel Tubing (Small Diameter) for General Service
ASTM	A	688	Welded Stainless Steel Feedwater Heater Tubes
ASTM	A	778	Welded, Unannealed Austenitic Stainless Steel Tubular Products
ASTM	A	789	Seamless and Welded Ferritic/Austenitic Stainless Steel Sanitary Tubing
ASTM	A	790	Seamless and Welded Ferritic/Austenitic Stainless Steel Pipe

ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS
Grades 304 (H), 310 (H), 316, 321 (H), 347 (H), alloy 20, 800H, 825, C276
Sizes range from 1/8" OD up to but not limited to 40" OD. Wall thicknesses (WT) range from .010" up to but not limited to 2.00"

PRIMROSE PRODUCTS
CARBON STEEL PIPE & TUBE

ASTM	A	53	Pipe, steel, black and hot dipped, zinc-coated, Welded and Seamless
ASTM	A	106	Seamless carbon steel pipe for high-temperature service
ASTM	A	178	ERW carbon steel boiler and super heater tubes
ASTM	A	179	Seamless Cold-Drawn low carbon heat exchanger and condenser tubes
ASME	A	209	Seamless Carbon-Molybdenum Alloy-Steel Boiler and Super-heater tubes
ASME	SA	210	Seamless medium-carbon boiler and superheater tubes
ASTM	A	226	Electric-Resistance-Welded Carbon Steel Boiler and Superheater Tubes for High-Pressure Service
API	5L	Grade B	Seamless, ERW, DSAW Line Pipe
ASTM	A	333	Seamless and Welded Steel Pipe for Low-Temperature service
API Oil Country Tubing grades J-55, K55, N80 E.R.W.			
ASTM	A	450	General Requirements for Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes
ASTM	A	500	Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM	A	513	DOM and ERW carbon and alloy mechanical tubing
ASTM	A	519	Seamless carbon and alloy mechanical tubing
ASTM	A	520	Supplementary Requirements for Seamless and ERW Carbon Steel Tubular Products for High-Temperature Service Conforming to ISO Recommendations for Boiler Construction
ASTM	A	530	General Requirements for Specialized Carbon Steel and Alloy Pipe
ASTM	A	587	Electric-Resistance-Welded Carbon Steel Pipe for the Chemical Industry
ASTM	A	671	Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures

PRIMROSE PRODUCTS
FITTING & FLANGES

ASTM	A	105	Carbon Steel Forgings for Piping Applications
ASTM	A	182	Forged or Rolled Alloy – Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
ASTM	A	234	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High-Temperature Service.
ASTM	A	350	Carbon and Low-Alloy Steel Forgings, Requiring Notch Toughness Testing for Piping Components
ASTM	A	403	Wrought Austenitic Stainless Steel Piping Fittings
ASTM	A	420	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-Temperature Service
ASTM	A	694	Carbon and Alloy Steel Forgings for Pipe Flanges, Fittings, Valves, and Parts for High-Pressure Transmission Service

ASME B16.47, B16.48 Flanges stainless, duplex, super duplex, nickel, titanium, aluminum and carbon
½" – 10" class 150 to 2500; 10" – 24" class 150 – 300

PRIMROSE PRODUCTS
ALUMINUM TUBING, BAR & ROD

AMS		4065	Seamless Drawn Tubing (1.2Mn 0.12Cu, Annealed)
AMS		4067	Seamless Drawn Round Tubing (1.2Mn 0.12Cu, Strain Hardened)
AMS		4070	Seamless Drawn Round Tubing (2.5Mg 0.25Cr)
AMS		4071	Seamless Hydraulic Drawn Round Tubing (2.5Mg 0.25Cr Annealed)
AMS		4080	Seamless Drawn Tubing (1.0Mg 0.60Si 0.28Cu 0.20Cr)
AMS		4082	Seamless Drawn Tubing (1.0Mg 0.60Si 0.28Cu 0.20Cr Solution & Precipitation Heat
AMS		4083	Seamless Hydraulic Drawn Round Tubing (1.0Mg 0.60Si 0.28Cu 0.20Cr /Solution & P
AMS		4086	Seamless Hydraulic Drawn Tubing (4.4Cu 1.5Mg 0.6Mn Solution Heat Treated, Cold
AMS		4087	Seamless Drawn Tubing (4.4Cu 1.5Mg 0.6Mn)
AMS		4088	Seamless Drawn Tubing (4.4Cu 1.5Mg 0.6Mn)
AMS		4169 E	Extruded Tubing (5.62N 2.5Mg 1.6Cu 0.23Cr Solution Heat Treated, Stress Relieved by Stretching and Precipitation Heat Treated, Straightened)
ASTM	B	210	Aluminum Alloy Drawn Seamless Tubes
ASTM	B	221	Aluminum Alloy Extruded Bars, Rods, Wire, Shapes, and Tube
ASTM	B	241	Aluminum Alloy Seamless Pipe and Seamless Extruded Tube
ASTM	B	429	Aluminum Alloy Extruded Structural Pipe and Tube
MIL	T	7081	Seamless Drawn Round Aluminum 6061 Tubing, Aircraft Hydraulic Quality
QQ	A	200	Extruded Aluminum Alloy Bar, Rod, Shapes, Structural Shapes, Tube, Wire
WWW	T	700	Seamless Drawn Aluminum Tubing

Grades 2024-0, 2024-T3 (T3511), 3003-0, 3003-H14, 5052-0, 5083-H112, 5086-H32, 6061-0, 6061-T4, 6061-T6 (T6511), 6063-T4, 6063-T6, 6063-T832, 7075-T6 (T6511), 7075 -T73 (T73511

Sizes range from 1/8" OD up to but not limited to 7" OD. Wall thicknesses (WT) range from .016" up to but not limited to .750". Generally speaking these alloys are available in a combination of OD's and WT's as well as many different specifications. Some of these specifications include:

INDUSTRY TOOLS

Stainless Pipe Sheet

Tube Sheet

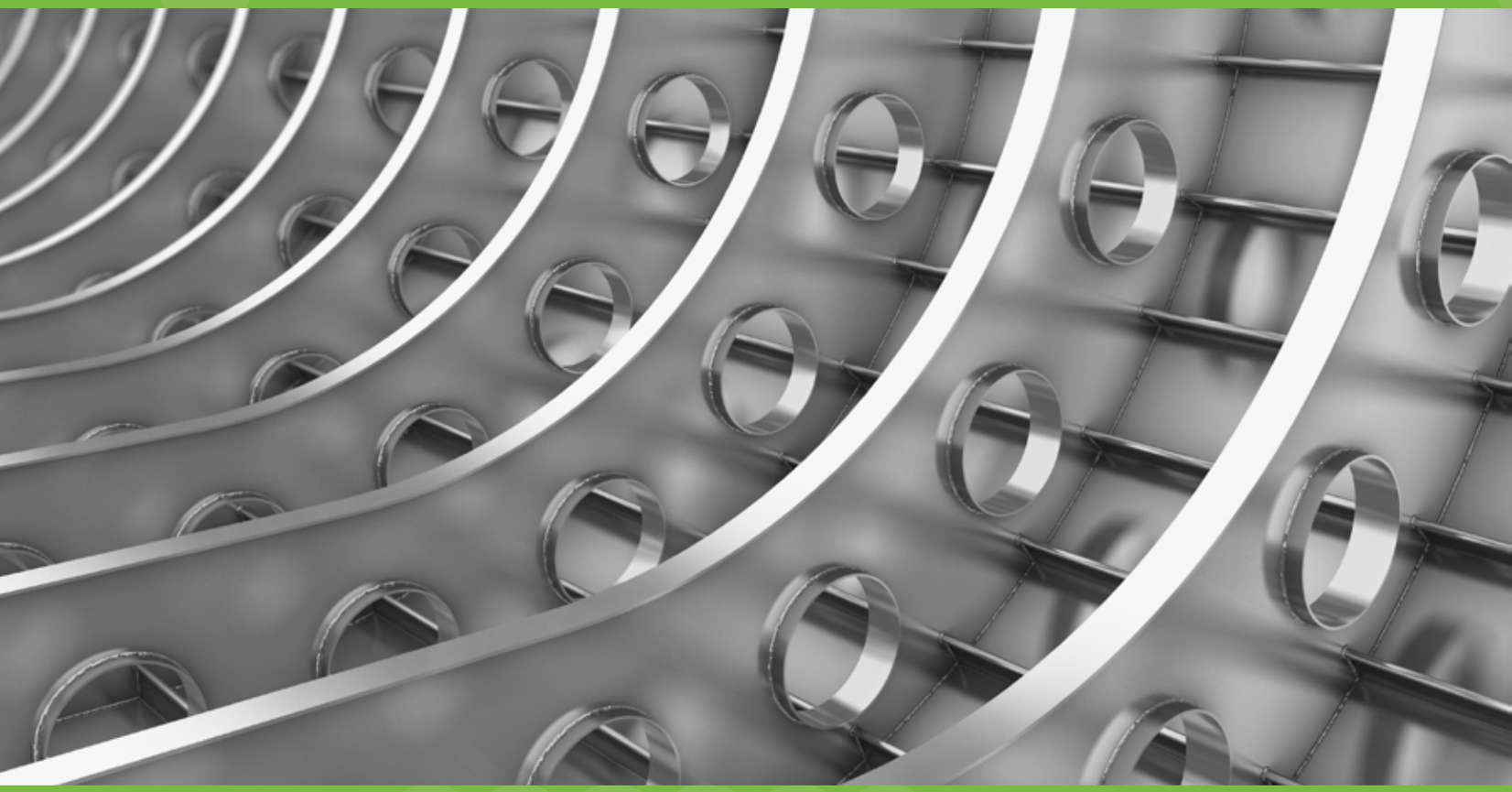
Carbon Sheet

Aluminum Tube Sheet

Systematic Layout of
High Ni Alloy

Systematic Layout of
High Stainless Steel Alloy

WT/FT Calculation



INDUSTRY TOOLS **STAINLESS PIPE SHEET**

Welded & seamless pipe dimensions and weights

Pipe Size	O.D. in Inches	5	TRUE 10	10S	20	30	TRUE 40	40S & STD	60	TRUE 80	80S & XH	100	120	140	160	XXH
1/8	0.405	0.035 0.138	0.049 0.186	0.049 0.186			0.068 0.245	0.068 0.245		0.095 0.315	0.095 0.315					
1/4	0.540	0.049 0.257	0.065 0.330	0.065 0.330			0.088 0.425	0.088 0.425		0.119 0.535	0.119 0.535					
3/8	0.675	0.049 0.328	0.065 0.424	0.065 0.424			0.091 0.568	0.091 0.568		0.126 0.739	0.126 0.739					
1/2	0.840	0.065 0.538	0.083 0.671	0.083 0.671			0.109 0.851	0.109 0.851		0.147 1.088	0.147 1.088				0.187 1.304	0.294 1.714
3/4	1.050	0.065 0.684	0.083 0.857	0.083 0.857			0.113 1.310	0.113 1.131		0.154 1.474	0.154 1.474				0.218 1.937	0.308 2.441
1	1.315	0.065 0.868	0.109 1.404	0.109 1.404			0.133 1.679	0.133 1.679		0.179 2.172	0.179 2.172				0.250 2.844	0.358 3.659
1 1/4	1.660	0.065 1.107	0.109 1.806	0.109 1.806			0.140 2.273	0.140 2.273		0.191 2.997	0.191 2.997				0.250 3.765	0.382 5.214
1 1/2	1.900	0.065 1.274	0.109 2.085	0.109 2.085			0.145 2.718	0.145 2.718		0.200 3.631	0.200 3.631				0.281 4.859	0.400 6.408
2	2.375	0.065 1.604	0.109 2.638	0.109 2.638			0.154 3.653	0.154 3.653		0.218 5.022	0.218 5.022				0.343 7.444	0.436 9.029
2 1/2	2.875	0.083 2.475	0.120 3.531	0.120 3.531			0.203 5.793	0.203 5.793		0.276 7.661	0.276 7.661				0.375 10.010	0.552 13.700
3	3.500	0.083 3.029	0.120 4.332	0.120 4.332			0.216 7.576	0.216 7.576		0.300 10.250	0.300 10.250				0.437 14.320	0.600 18.580
3 1/2	4.000	0.083 3.472	0.120 4.973	0.120 4.973			0.226 9.109	0.226 9.109		0.318 12.510	0.318 12.510					0.636 22.850
4	4.500	0.083 3.915	0.120 5.613	0.120 5.613			0.237 10.790	0.237 10.790	0.281 12.660	0.337 14.980	0.337 14.980		0.437 14.980		0.531 22.510	0.674 27.540
4 1/2	5.000							0.247 12.530			0.355 17.610					0.710 32.530
5	5.563	0.109 6.439	0.134 7.770	0.134 7.770			0.258 14.620	0.258 14.620		0.375 20.780	0.375 20.780		0.500 27.040		0.625 32.960	0.750 38.550
6	6.625	0.109 7.585	0.134 9.289	0.134 9.289			0.280 18.970	0.280 18.970		0.432 28.570	0.432 28.570		0.562 36.390		0.718 45.300	0.864 53.160
7	7.625							0.301 23.570			0.500 38.050					0.875 63.080
8	8.625	0.109 9.914	0.148 22.360	0.148 22.360	0.250 22.360	0.277 24.700	0.322 28.550	0.322 28.550	0.406 35.640	0.500 43.490	0.500 43.490	0.593 50.870	0.718 60.630	0.812 67.760	0.906 74.690	0.875 72.420
9	9.625							0.342 33.900			0.500 48.720					
10	10.750	0.134 15.190	0.165 18.700	0.165 18.700	0.250 28.040	0.307 34.240	0.365 54.740	0.365 54.740	0.500 54.740	0.593 64.330	0.500 54.740	0.718 76.930	0.843 89.200	1.000 104.100	1.125 115.700	1.000 104.100
11	11.750							0.375 45.550			0.500 60.070					
12	12.750	0.165 22.180	0.180 24.200	0.180 24.200	0.250 43.770	0.330 43.770	0.406 53.530	0.375 49.560	0.562 73.160	0.687 88.510	0.500 65.420	0.843 125.500	1.000 125.500	1.125 139.700	1.312 160.300	1.000 125.500
14	14.000		0.250 36.710	0.188 27.730	0.312 45.680	0.375 54.570	0.437 63.370	0.375 54.470	0.593 84.910	0.750 106.100	0.500 72.090	0.937 130.700	1.093 130.700	1.250 170.200	1.406 189.100	
16	16.000		0.250 42.050	0.188 31.750	0.312 52.360	0.375 62.580	0.500 82.770	0.375 62.580	0.656 107.500	0.843 136.500	0.500 82.770	1.031 164.800	1.218 192.300	1.437 223.500	1.593 245.100	
18	18.000		0.250 47.390	0.188 35.760	0.312 59.030	0.437 82.060	0.562 104.800	0.375 70.590	0.750 138.200	0.937 170.800	0.500 93.450	1.156 208.000	1.375 244.100	1.562 274.200	1.718 308.500	
20	20.000		0.250 52.730	0.218 46.050	0.375 78.600	0.500 104.100	0.593 122.900	0.375 78.600	0.812 166.400	1.031 208.900	0.500 104.100	1.280 256.100	1.500 256.100	1.750 341.100	1.968 379.000	
22	22.000		0.250 58.070		0.375 86.610	0.500 114.800		0.375 86.610	0.875 197.400	1.125 250.800	0.500 114.800	1.375 302.900	1.625 353.600	1.875 403.000	2.125 451.100	
24	24.000		0.250 63.410	0.250 63.410	0.375 94.620	0.562 140.800	0.687 171.200	0.375 94.620	0.968 238.100	1.218 296.400	0.500 125.200	1.531 367.400	1.812 429.400	2.062 483.100	2.343 541.900	
26	26.000		0.312 85.600		0.500 136.200			0.375 102.600			0.500 136.200					
28	28.000		0.312 92.260		0.500 146.800	0.625 182.700		0.375 110.600			0.500 146.800					
30	30.000		0.312 98.930	0.312 98.930	0.500 157.500	0.625 196.100		0.375 118.600			0.500 157.500					
32	32.000		0.312 105.600		0.500 168.200	0.625 209.400	0.688 230.100	0.375 126.700			0.500 168.200					
34	34.000		0.312 112.250		0.500 178.900	0.625 222.800	0.688 244.800	0.375 134.700			0.500 178.900					
36	36.000		0.312 118.900		0.500 189.600	0.625 236.100	0.750 282.300	0.375 142.700			0.500 189.600					
42								0.375 166.700			0.500 221.600					
48								0.375 190.700			0.500 253.600					

Top Figures: Wall Thickness in Inches
Bottom Figures: Weight per Foot in Pounds

INDUSTRY TOOLS **TUBE SHEET**

OD	MW	lbs/ft
1.000	0.109	1.141
1.000	0.134	1.363
1.500	0.160	2.519
1.500	0.165	2.588
1.500	0.200	3.054
1.500	0.220	3.308
1.500	0.240	3.553
1.500	0.260	3.788
1.500	0.320	4.436
1.500	0.375	4.956
1.500	0.400	5.169
1.625	0.150	2.623
1.625	0.165	2.856
1.750	0.096	1.882
1.750	0.150	2.845
1.750	0.158	2.982
1.750	0.177	3.301
1.750	0.180	3.350
1.750	0.188	3.481
1.750	0.200	3.675
1.750	0.203	3.723
1.750	0.220	3.990
1.750	0.225	4.068
1.750	0.230	4.144
1.750	0.240	4.296
1.750	0.244	4.356
1.750	0.245	4.371
1.750	0.260	4.593
1.750	0.266	4.680
1.750	0.270	4.737
1.750	0.280	4.879
1.750	0.300	5.157
1.750	0.320	5.425
1.750	0.326	5.503
1.750	0.340	5.683
1.750	0.350	5.809
1.750	0.360	5.932
1.750	0.375	6.113
1.750	0.380	6.172
1.750	0.390	6.288
1.750	0.400	6.402
1.750	0.430	6.729
1.750	0.460	7.035
1.750	0.470	7.132
1.875	0.200	3.971
1.875	0.220	4.316
1.875	0.242	4.685
1.875	0.255	4.897
1.875	0.260	4.978
1.875	0.310	5.751
1.875	0.420	7.244
1.875	0.480	7.938
2.000	0.148	3.249
2.000	0.150	3.290
2.000	0.165	3.589
2.000	0.180	3.884

OD	MW	lbs/ft
2.000	0.200	4.268
2.000	0.203	4.325
2.000	0.210	4.456
2.000	0.216	4.568
2.000	0.220	4.642
2.000	0.230	4.826
2.000	0.240	5.007
2.000	0.250	5.186
2.000	0.260	5.363
2.000	0.270	5.537
2.000	0.280	5.709
2.000	0.290	5.879
2.000	0.300	6.046
2.000	0.310	6.211
2.000	0.313	6.260
2.000	0.320	6.373
2.000	0.322	6.405
2.000	0.338	6.660
2.000	0.340	6.691
2.000	0.346	6.784
2.000	0.360	6.999
2.000	0.365	7.075
2.000	0.372	7.179
2.000	0.375	7.224
2.000	0.380	7.298
2.000	0.400	7.587
2.000	0.438	8.111
2.000	0.440	8.137
2.000	0.500	8.891
2.125	0.148	3.469
2.125	0.150	3.512
2.125	0.165	3.834
2.125	0.180	4.150
2.125	0.188	4.317
2.125	0.200	4.564
2.125	0.220	4.968
2.125	0.240	5.363
2.125	0.250	5.557
2.125	0.260	5.748
2.125	0.280	6.124
2.125	0.281	6.143
2.125	0.300	6.491
2.125	0.340	7.195
2.125	0.360	7.533
2.125	0.380	7.861
2.125	0.420	8.489
2.125	0.438	8.760
2.125	0.500	9.632
2.150	0.240	5.434
2.250	0.148	3.688
2.250	0.150	3.734
2.250	0.165	4.078
2.250	0.175	4.305
2.250	0.180	4.417
2.250	0.188	4.596
2.250	0.195	4.751

OD	MW	lbs/ft
2.250	0.200	4.860
2.250	0.203	4.926
2.250	0.220	5.294
2.250	0.240	5.719
2.250	0.256	6.051
2.250	0.260	6.134
2.250	0.275	6.439
2.250	0.276	6.459
2.250	0.281	6.559
2.250	0.282	6.579
2.250	0.300	6.935
2.250	0.310	7.129
2.250	0.350	7.883
2.250	0.354	7.957
2.250	0.360	8.066
2.250	0.365	8.156
2.250	0.374	8.318
2.250	0.386	8.530
2.250	0.400	8.773
2.250	0.420	9.112
2.250	0.438	9.409
2.375	0.125	3.334
2.500	0.148	4.127
2.500	0.150	4.179
2.500	0.165	4.567
2.500	0.180	4.951
2.500	0.200	5.453
2.500	0.203	5.528
2.500	0.240	6.430
2.500	0.248	6.621
2.500	0.250	6.668
2.500	0.260	6.904
2.500	0.270	7.138
2.500	0.276	7.277
2.500	0.280	7.369
2.500	0.300	7.824
2.500	0.310	8.048
2.500	0.320	8.270
2.500	0.325	8.380
2.500	0.360	9.133
2.500	0.365	9.238
2.500	0.374	9.426
2.500	0.375	9.447
2.500	0.438	10.707
2.750	0.180	5.484
2.750	0.195	5.906
2.750	0.240	7.141
2.750	0.284	8.302
3.000	0.300	9.602
3.000	0.400	12.329
3.500	0.400	14.700
3.500	0.460	16.578
4.000	0.120	5.520
4.000	0.237	10.572
4.500	0.237	11.977

BOILER TUBE SCHEDULES
ASTM A213 / ASME SA213
Grades 304H - 347H - 310H - 321H
Stainless Steel Seamless Boiler Tube Min Wall

INDUSTRY TOOLS **CARBON SHEET**

PIPE SIZE	OD IN INCHES	OD IN MM	WEIGHTS AND DIMENSIONS OF SEAMLESS AND WELDED STEEL PIPE (P.E.)												
			10	20	30	40	STD	60	80	XS	100	120	140	160	XXS
1/8	0.405	10.3				0.068 .024	0.068 .024		0.095 .31	0.095 .31					
1/4	0.540	13.7				0.088 0.43	0.088 0.43		0.119 0.54	0.119 0.54					
3/8	0.675	17.1				0.091 .57	0.091 .57		0.126 .74	0.126 .74					
1/2	0.840	21.3				0.109 .85	0.109 .85		0.147 1.09	0.147 1.09				0.188 1.31	0.294 1.72
3/4	1.050	26.7				0.113 1.13	0.113 1.13		0.154 1.48	0.154 1.48				0.219 1.95	0.308 2.44
1	1.315	33.4				0.133 1.68	0.133 1.68		0.179 2.17	0.179 2.17				0.250 2.85	0.358 3.66
1 1/4	1.660	42.2				0.140 2.27	0.140 2.27		0.191 3.00	0.191 3.00				0.250 3.77	0.382 5.22
1 1/2	1.900	48.3				0.145 2.72	0.145 2.72		0.200 3.63	0.200 3.63				0.281 4.86	0.400 6.41
2	2.375	60.3				0.154 3.66	0.154 3.66		0.218 5.03	0.218 5.03				0.344 7.47	0.436 9.04
2 1/2	2.875	73.0				0.203 5.80	0.203 5.80		0.276 7.67	0.276 7.67				0.375 10.02	0.552 13.71
3	3.500	88.9				0.216 7.58	0.216 7.58		0.300 10.26	0.300 10.26				0.438 14.34	0.600 18.60
3 1/2	4.000	101.6				0.226 9.12	0.226 9.12		0.318 12.52	0.318 12.52					0.636 22.85
4	4.500	114.3				0.237 10.80	0.237 10.80	0.281 12.67	0.337 15.00	0.337 15.00		0.438 19.02		0.531 22.53	0.674 27.57
5	5.563	141.3				0.258 14.63	0.258 14.63		0.375 20.80	0.375 20.80		0.500 27.06		0.625 32.99	0.750 38.59
6	6.625	168.3				0.280 18.99	0.280 18.99		0.432 28.60	0.432 28.60		0.562 36.43		0.719 45.39	0.864 53.21
8	8.625	219.1		0.250 22.38	0.277 24.22	0.322 28.58	0.322 28.58	0.406 35.67	0.500 43.43	0.500 43.43	0.594 51.00	0.719 60.77	0.812 67.82	0.906 74.76	0.875 72.49
10	10.750	273.1		0.250 28.06	0.307 34.27	0.365 40.52	0.365 40.52	0.500 54.79	0.594 64.49	0.500 54.79	0.719 77.10	0.844 89.38	1.000 104.23	1.125 115.75	1.000 104.23
12	12.750	323.9		0.250 33.41	0.330 43.81	0.406 53.57	0.375 49.61	0.562 73.22	0.688 88.71	0.500 65.48	0.844 107.42	1.000 125.61	1.125 139.81	1.312 160.42	1.000 125.61
14	14.000	355.6	0.250 36.75	0.312 45.65	0.375 54.62	0.438 63.50	0.375 54.62	0.594 85.13	0.750 106.23	0.500 72.16	0.938 130.98	1.094 150.93	1.250 170.37	1.406 189.29	
16	16.000	406.4	0.250 42.09	0.312 52.32	0.3750 62.64	0.500 82.85	0.375 62.64	0.656 107.60	0.844 136.74	0.500 82.85	1.031 164.98	1.219 192.61	1.438 223.85	1.594 245.48	
18	18.000	457.2	0.250 47.44	0.312 58.99	0.438 82.23	0.562 104.76	0.375 70.65	0.750 138.30	0.938 171.08	0.500 93.54	1.156 208.15	1.375 244.37	1.562 274.48	1.781 308.79	
20	20.000	508	0.250 52.78	0.375 78.67	0.500 104.23	0.594 123.23	0.375 78.67	0.812 166.56	1.031 209.06	0.500 104.23	1.281 256.34	1.500 296.65	1.750 341.41	1.969 379.53	
24	24.000	609.6	0.250 63.47	0.375 94.71	0.562 140.81	0.688 171.45	0.375 94.71	0.969 238.57	1.219 296.86	0.500 125.61	1.531 367.74	1.812 429.79	2.062 483.57	2.344 542.64	
26	26.000	660.4	0.312 85.68	0.500 136.30			0.375 102.72			0.500 136.30					
30	30.000	762	0.312 99.02	0.500 157.68	0.625 196.26		0.375 118.76			0.500 157.68					
36	36.000	914.4	0.312 119.03	0.500 189.75	0.625 236.35	0.750 282.62	0.375 142.81			0.500 189.75					
42	42.000	1067					0.375 166.86			0.500 221.82					
48	48.000	1219					0.375 190.92			0.500 253.89					

Black type = wall thickness in inches
Green type = weight per foot in pounds
To convert the inch dimensions of outside diameters and wall thickness to millimeters, multiply the inch dimensions by 25.4

INDUSTRY TOOLS **ALUMINUM TUBE SHEET**

O.D. (“)	WALL (“)	LB/FT
0.1250	0.020	0.008
0.1250	0.028	0.010
0.1250	0.035	0.012
0.1870	0.028	0.016
0.1870	0.035	0.020
0.1875	0.022	0.013
0.1875	0.028	0.016
0.1875	0.035	0.020
0.1875	0.040	0.022
0.1875	0.049	0.025
0.2500	0.020	0.017
0.2500	0.022	0.019
0.2500	0.028	0.023
0.2500	0.032	0.026
0.2500	0.035	0.028
0.2500	0.042	0.032
0.2500	0.049	0.036
0.2500	0.058	0.041
0.2500	0.059	0.042
0.2500	0.065	0.044
0.2500	0.083	0.051
0.3120	0.028	0.029
0.3120	0.056	0.053
0.3125	0.020	0.022
0.3125	0.028	0.029
0.3125	0.035	0.036
0.3125	0.049	0.048
0.3125	0.056	0.053
0.3125	0.058	0.055
0.3125	0.065	0.059
0.3750	0.020	0.026
0.3750	0.022	0.029
0.3750	0.028	0.036
0.3750	0.035	0.044
0.3750	0.039	0.048
0.3750	0.042	0.052
0.3750	0.049	0.059
0.3750	0.058	0.068
0.3750	0.065	0.074
0.3750	0.083	0.090
0.3750	0.090	0.095
0.3750	0.093	0.097
0.3750	0.095	0.098
0.3930	0.125	0.124
0.4370	0.058	0.081
0.4375	0.028	0.042
0.4375	0.035	0.052
0.4375	0.049	0.070
0.4375	0.065	0.089
0.4375	0.083	0.109
0.4375	0.095	0.120
0.4375	0.125	0.144
0.4375	0.140	0.154
0.5000	0.020	0.035
0.5000	0.022	0.039
0.5000	0.028	0.049

O.D. (“)	WALL (“)	LB/FT
0.5000	0.032	0.055
0.5000	0.035	0.060
0.5000	0.042	0.071
0.5000	0.049	0.082
0.5000	0.058	0.095
0.5000	0.065	0.104
0.5000	0.083	0.128
0.5000	0.095	0.142
0.5000	0.120	0.168
0.5000	0.125	0.173
0.5000	0.156	0.198
0.5625	0.035	0.068
0.5625	0.049	0.093
0.5625	0.065	0.119
0.5625	0.125	0.202
0.5625	0.172	0.248
0.6250	0.016	0.036
0.6250	0.020	0.045
0.6250	0.022	0.049
0.6250	0.028	0.062
0.6250	0.035	0.076
0.6250	0.042	0.090
0.6250	0.049	0.104
0.6250	0.058	0.121
0.6250	0.065	0.134
0.6250	0.083	0.166
0.6250	0.095	0.186
0.6250	0.121	0.225
0.6250	0.125	0.231
0.6250	0.156	0.270
0.6875	0.188	0.347
0.7500	0.020	0.054
0.7500	0.022	0.059
0.7500	0.028	0.075
0.7500	0.035	0.092
0.7500	0.042	0.110
0.7500	0.049	0.127
0.7500	0.058	0.148
0.7500	0.062	0.158
0.7500	0.065	0.164
0.7500	0.083	0.205
0.7500	0.095	0.230
0.7500	0.120	0.279
0.7500	0.125	0.289
0.7500	0.156	0.342
0.7500	0.188	0.390
0.8125	0.028	0.081
0.8750	0.028	0.088
0.8750	0.035	0.109
0.8750	0.049	0.150
0.8750	0.058	0.175
0.8750	0.065	0.195
0.8750	0.083	0.243
0.8750	0.095	0.274
0.8750	0.120	0.335
0.8750	0.188	0.477

O.D. (“)	WALL (“)	LB/FT
0.8750	0.250	0.577
1.0000	0.020	0.072
1.0000	0.022	0.079
1.0000	0.028	0.101
1.0000	0.035	0.125
1.0000	0.049	0.172
1.0000	0.058	0.202
1.0000	0.065	0.225
1.0000	0.083	0.281
1.0000	0.095	0.318
1.0000	0.120	0.390
1.0000	0.125	0.404
1.0000	0.156	0.486
1.0000	0.188	0.564
1.0000	0.250	0.693
1.0625	0.188	0.607
1.1250	0.035	0.141
1.1250	0.049	0.195
1.1250	0.058	0.229
1.1250	0.065	0.255
1.1250	0.083	0.320
1.1250	0.095	0.362
1.1250	0.125	0.462
1.1250	0.156	0.558
1.1250	0.188	0.651
1.2500	0.020	0.091
1.2500	0.022	0.100
1.2500	0.025	0.113
1.2500	0.028	0.126
1.2500	0.032	0.144
1.2500	0.035	0.157
1.2500	0.049	0.217
1.2500	0.055	0.243
1.2500	0.058	0.255
1.2500	0.065	0.285
1.2500	0.083	0.358
1.2500	0.095	0.405
1.2500	0.120	0.501
1.2500	0.125	0.520
1.2500	0.130	0.538
1.2500	0.156	0.631
1.2500	0.188	0.738
1.2500	0.250	0.924
1.2560	0.058	0.257
1.2900	0.067	0.303
1.3750	0.025	0.125
1.3750	0.035	0.173
1.3750	0.049	0.240
1.3750	0.058	0.282
1.3750	0.065	0.315
1.3750	0.083	0.396
1.3750	0.095	0.449
1.3750	0.109	0.510
1.3750	0.120	0.556
1.3750	0.125	0.577
1.3750	0.156	0.703

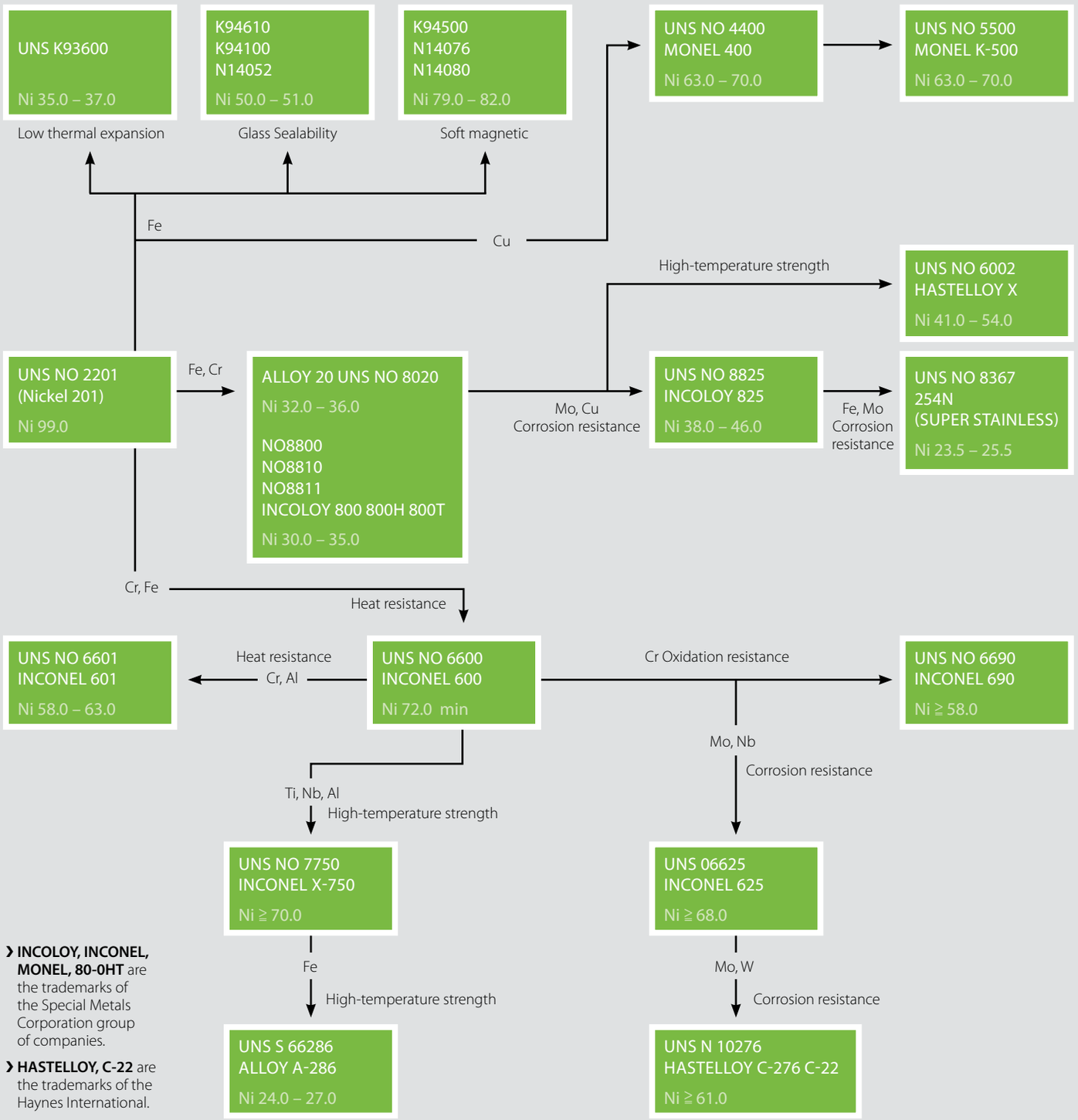
O.D. (“)	WALL (“)	LB/FT
1.3750	0.188	0.824
1.3750	0.250	1.039
1.3750	0.281	1.136
1.3750	0.313	1.228
1.5000	0.020	0.109
1.5000	0.022	0.120
1.5000	0.025	0.136
1.5000	0.028	0.152
1.5000	0.035	0.189
1.5000	0.049	0.263
1.5000	0.058	0.309
1.5000	0.063	0.334
1.5000	0.065	0.345
1.5000	0.083	0.435
1.5000	0.095	0.493
1.5000	0.120	0.612
1.5000	0.125	0.635
1.5000	0.150	0.748
1.5000	0.156	0.775
1.5000	0.188	0.911
1.5000	0.250	1.155
1.5000	0.375	1.559
1.6250	0.035	0.206
1.6250	0.049	0.285
1.6250	0.058	0.336
1.6250	0.065	0.375
1.6250	0.083	0.473
1.6250	0.107	0.600
1.6250	0.120	0.667
1.6250	0.125	0.693
1.6250	0.188	0.998
1.6250	0.250	1.270
1.6250	0.437	1.918
1.7500	0.020	0.128
1.7500	0.022	0.140
1.7500	0.028	0.178
1.7500	0.035	0.222
1.7500	0.049	0.308
1.7500	0.058	0.363
1.7500	0.065	0.405
1.7500	0.083	0.511
1.7500	0.095	0.581
1.7500	0.109	0.661
1.7500	0.120	0.723
1.7500	0.125	0.750
1.7500	0.188	1.085
1.7500	0.250	1.385
1.8750	0.035	0.238
1.8750	0.049	0.331
1.8750	0.058	0.389
1.8750	0.083	0.550
1.8750	0.156	0.991
1.8750	0.188	1.172
2.0000	0.022	0.161
2.0000	0.028	0.204
2.0000	0.032	0.233

O.D. (“)	WALL (“)	LB/FT
2.0000	0.035	0.254
2.0000	0.042	0.304
2.0000	0.049	0.353
2.0000	0.058	0.416
2.0000	0.065	0.465
2.0000	0.083	0.588
2.0000	0.095	0.669
2.0000	0.100	0.702
2.0000	0.120	0.833
2.0000	0.125	0.866
2.0000	0.156	1.063
2.0000	0.188	1.259
2.0000	0.250	1.616
2.1250	0.035	0.270
2.1250	0.065	0.495
2.1250	0.156	1.135
2.1250	0.188	1.345
2.2500	0.028	0.230
2.2500	0.035	0.286
2.2500	0.049	0.398
2.2500	0.062	0.501
2.2500	0.065	0.525
2.2500	0.083	0.665
2.2500	0.120	0.944
2.2500	0.125	0.981
2.3750	0.049	0.421
2.3750	0.058	0.496
2.3750	0.065	0.555
2.5000	0.022	0.201
2.5000	0.028	0.256
2.5000	0.032	0.292
2.5000	0.035	0.319
2.5000	0.042	0.381
2.5000	0.049	0.444
2.5000	0.065	0.585
2.5000	0.083	0.741
2.5000	0.095	0.844
2.5000	0.120	1.055
2.5000	0.125	1.097
2.5000	0.188	1.606
2.5000	0.375	2.944
2.7500	0.028	0.282
2.7500	0.035	0.351
2.7500	0.049	0.489
2.7500	0.065	0.645
2.7500	0.083	0.818
2.7500	0.085	0.837
2.7500	0.095	0.932
2.7500	0.125	1.212
3.0000	0.025	0.275
3.0000	0.028	0.307
3.0000	0.035	0.383
3.0000	0.042	0.459
3.0000	0.049	0.534
3.0000	0.065	0.705

O.D. (“)	WALL (“)	LB/FT
3.0000	0.083	0.894
3.0000	0.120	1.277
3.0000	0.125	1.328
3.0000	0.250	2.540
3.0000	0.300	2.993
3.0000	0.375	3.637
3.2500	0.035	0.416
3.2500	0.065	0.765
3.2500	0.125	1.443
3.2500	0.250	2.771
3.2500	0.500	5.080
3.5000	0.022	0.283
3.5000	0.028	0.359
3.5000	0.032	0.410
3.5000	0.035	0.448
3.5000	0.042	0.537
3.5000	0.049	0.625
3.5000	0.065	0.825
3.5000	0.083	1.048
3.5000	0.095	1.195
3.5000	0.100	1.256
3.5000	0.120	1.498
3.5000	0.125	1.559
3.5000	0.250	3.002
3.5000	0.313	3.685
3.5000	0.500	5.542
4.0000	0.028	0.411
4.0000	0.035	0.513
4.0000	0.042	0.614
4.0000	0.049	0.715
4.0000	0.058	0.845
4.0000	0.065	0.945
4.0000	0.083	1.201
4.2500	0.065	1.005
4.2500	0.125	1.905
4.5000	0.032	0.528
4.5000	0.035	0.577
4.5000	0.049	0.806
4.5000	0.063	1.033
4.5000	0.065	1.065
4.5000	0.083	1.354
5.0000	0.035	0.642
5.0000	0.049	0.896
5.0000	0.063	1.149
5.0000	0.065	1.185
5.0000	0.083	1.508
5.0000	0.095	1.722
5.2500	0.125	2.367
5.5000	0.035	0.707
5.5000	0.042	0.847
5.5000	0.049	0.987
5.5000	0.063	1.265
6.0000	0.049	1.077
6.0000	0.058	1.273
6.0000	0.065	1.425

Seamless Drawn Tube. Alloy 6061 Factor 1.176 LB per cubic foot.

INDUSTRY TOOLS
SYSTEMATIC LAYOUT OF HIGH Ni ALLOY



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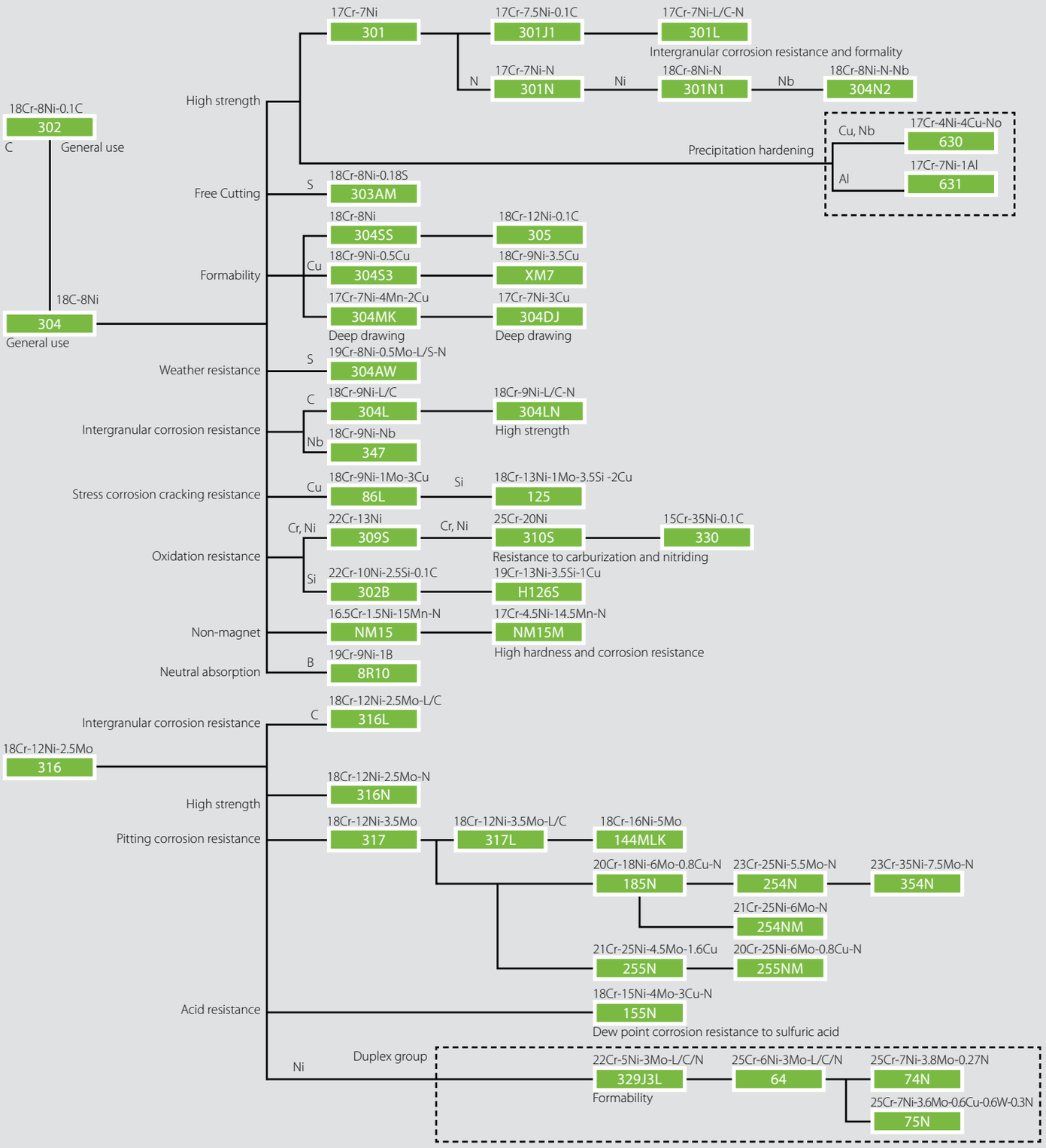
INDUSTRY TOOLS **SYSTEMATIC LAYOUT OF HIGH STAINLESS STEEL**



PrimroseAlloys

INDUSTRY TOOLS **WT/FT CALCULATION**

Formula for calculating weight per foot on round stainless and carbon steel tubing and pipe

Average Weight/Foot

$$W = 10.68\,(D - t)t$$

Minimum Weight/Foot

$$W = 10.68\left(D - \frac{t}{0.875}\right)\ \frac{t}{0.875}$$

W = Weight in pounds per foot (carried to four digits)
D = Outside diameter in inches (to three decimal places)
t = Wall thickness in decimals (to three decimal places)

** To determine Average or Minimum Wall Weight of square or rectangular tubing, substitute 13.60 for 10.68 in the above formula*

Formula for calculating weight per foot on stainless and carbon steel bars

STAINLESS AND CARBON		ALUMINIUM	
Rounds:	$2.673 \times D^2$	**Rounds:**	$3.1416 \times r^2 \times$ alloy factor
Squares:	$3.403 \times D^2$	**Squares:**	W x W x alloy factor
Hexagons:	$2.947 \times D^2$	**Hexagons:**	0.866 x (across flat) 2 x alloy factor
Flats:	3.403 x t x W	**Flats:**	W x T x alloy factor
		Rectangular:	W x H x alloy factor

Formula for calculating aluminum tube

Round Tube:

(O.D. - WT) x WT x π x alloy factor = WT/FT

Square Tube:

(W - WT) x 4 x WT x alloy factor = WT/FT

Rectangular Tube:

(W + H - WT x 2) x 2 x WT x alloy factor = WT/FT

r = Radius
H = Height
W = Width
OD = Outside diameter
T = Thickness
WT = Wall thickness

VISION

Primrose Alloys, Inc. is a Global Trading Company that exists to bridge the gap between the metal consuming markets and the world's preeminent aluminum, stainless, carbon and alloy producers.

MISSION

We are committed to providing outstanding customer service by sourcing the best mills for our customers and delivering on their needs, always trying to meet and exceed their expectations.

PrimroseAlloys

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