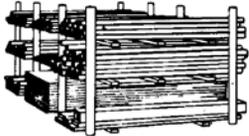


# 4130 STRUCTURAL TUBING

## 4130 ALLOY STEEL ROUND SEAMLESS TUBING MIL-T-6736 NORMALIZED /ANNEALED

(SOLD IN PRE-CUT LENGTHS)



um general purpose alloy steel tubing that is weldable and is capable of developing good strength. It has been for years lustry. Tensile Strength: 90,000 PSI. The stock sizes listed below can be furnished in lengths from 1 foot to 12 feet. m lengths from 10 to 12 feet unless specific lengths are requested. No charge is made for cutting stock sizes of tubing furnished on unlisted sizes.

**IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER.  
PLEASE INDICATE AT TIME OF ORDER**

ME

O.D. (In.)	Wall Thickness	I.D. (In.)	Wt. Per Ft.	Part No.	Price Per Ft.
3/16	.035	.131	.0478	03-00183	\$7.50
1/4	.028	.194	.0672	03-00250	\$13.50
	.035	.180	.0804	03-00300	\$9.50
	.049	.152	.1052	03-00400	\$35.50
	.058	.134	.1189	03-00500	\$43.99
	.065	.120	.1284	03-00510	\$19.85
5/16	.028	.256	.0852	03-00600	—
	.035	.243	.1039	03-00700	\$12.95
	.049	.215	.1382	03-00800	\$20.50
	.058	.196	.1580	03-00810	\$11.50
	.065	.182	.1722	03-00900	\$36.50
3/8	.095	.123	.2212	03-01000	\$15.90
	.028	.319	.1038	03-01100	\$11.95
	.035	.305	.1271	03-01200	\$15.50
	.049	.277	.1706	03-01300	\$11.50
	.058	.259	.1964	03-01400	\$11.50
7/16	.065	.249	.2152	03-01500	\$8.99
	.083	.209	.2588	03-01600	\$14.70
	.095	.185	.2841	03-01610	\$47.50
	.035	.367	.1506	03-01700	\$27.55
	.049	.340	.2036	03-01800	\$34.50
1/2	.058	.125	.236	03-00067	\$10.50
	.065	.307	.2589	03-02000	\$21.99
	.095	.247	.3480	03-02100	\$16.85
	.120	.197	.4075	03-02200	\$19.85
	.028	.444	.1411	03-02300	\$13.50
9/16	.035	.430	.1738	03-02400	\$8.50
	.049	.402	.2360	03-02500	\$11.60
	.058	.384	.2738	03-02600	\$7.55
	.065	.370	.3020	03-02700	\$18.50
	.083	.334	.3696	03-02710	\$13.50
5/8	.095	.310	.4109	03-02800	\$28.50
	.120	.260	.4870	03-02900	\$11.99
	.035	.492	.1974	03-03000	\$13.55
	.049	.464	.2690	03-03100	\$7.75
	.065	.432	.3457	03-03200	\$24.65
3/4	.120	.322	.5677	03-03400	\$23.50
	.028	.569	.1785	03-03500	\$13.50
	.035	.555	.2205	03-03600	\$8.55
	.049	.527	.3014	03-03700	\$9.50
	.058	.509	.3512	03-03800	\$11.50
7/8	.065	.495	.3888	03-03900	\$11.50
	.095	.435	.5377	03-04000	\$14.70
	.120	.385	.6472	03-04100	\$11.50
	.156	.313	.7814	03-04110	\$16.50
	.028	.694	.2159	03-04250	\$9.50
1-1/8	.035	.680	.2673	03-04300	\$12.95
	.049	.652	.3668	03-04400	\$8.65
	.058	.634	.4287	03-04500	\$11.50
	.065	.620	.4755	03-04600	\$7.55
	.095	.560	.6646	03-04700	\$25.50
1-1/4	.120	.510	.8074	03-04800	\$12.95
	.156	.437	.9897	03-04900	\$18.50
	.188	.375	1.128	03-05000	\$21.60
	.035	.805	.3140	03-05300	\$11.99
	.049	.777	.4323	03-05400	\$9.50
1-3/8	.058	.759	.5061	03-05500	\$11.50
	.065	.745	.5623	03-05600	\$13.50
	.083	.709	.7021	03-05700	\$10.50
	.095	.685	.7914	03-05800	\$27.50
	.120	.635	.9676	03-05900	\$16.50
1-1/2	.188	.500	1.379	03-06000	\$35.50

O.D. (In.)	Wall Thickness	I.D. (In.)	Wt. Per Ft.	Part No.	Price Per Ft.	
1	.028	.944	.2907	03-06110	\$37.50	
	.035	.930	.3607	03-06100	\$12.55	
	.049	.902	.4977	03-06200	\$9.50	
	.058	.884	.5835	03-06300	\$16.50	
	.065	.870	.6491	03-06400	\$7.55	
	.083	.834	1.0	03-06450	\$9.50	
	.095	.810	.9182	03-06500	\$13.50	
	.120	.760	1.128	03-06600	\$20.65	
	.156	.687	1.406	03-06700	\$38.85	
	.188	.625	1.630	03-06800	\$34.50	
	1-1/8	.035	1.055	.4074	03-06900	\$20.50
		.049	1.027	.5631	03-07000	\$15.50
.058		1.009	.6609	03-07100	\$9.50	
.065		.995	.7359	03-07200	\$11.50	
1-1/4	.095	.935	1.045	03-07300	\$16.50	
	.120	.885	1.288	03-07400	\$18.90	
	.035	1.180	.4542	03-07500	\$23.50	
	.049	1.152	.6285	03-07600	\$11.50	
	.058	1.134	.7384	03-07700	\$11.50	
1-3/8	.065	1.120	.8226	03-07800	\$11.50	
	.083	1.084	2.132	03-07810	\$11.50	
	.095	1.060	1.172	03-07900	\$11.50	
	.120	1.010	1.448	03-08000	\$16.50	
	.156	.938	1.823	03-08100	\$28.50	
1-1/2	.035	1.305	.5009	03-08210	\$25.50	
	.049	1.277	.6939	03-08200	\$26.75	
	.058	1.259	.8158	03-08300	\$11.50	
	.065	1.245	.9094	03-08400	\$11.50	
	.095	1.185	1.299	03-08500	\$14.70	
1-5/8	.120	1.135	1.609	03-08600	\$21.60	
	.188	1.000	2.383	03-08700	\$28.50	
	.035	1.430	.5476	03-08800	\$21.85	
	.049	1.402	.7593	03-08900	\$11.50	
	.058	1.384	.8932	03-09000	\$9.50	
1-7/8	.065	1.370	.9962	03-09100	\$13.50	
	.083	1.334	1.256	03-09110	\$26.75	
	.095	1.310	1.426	03-09200	\$13.50	
	.120	1.260	1.769	03-09300	\$18.75	
	.188	1.125	2.634	03-09400	\$33.90	
2	.058	1.509	.9707	03-09600	\$35.65	
	.065	1.495	1.083	03-09700	\$42.65	
	.083	1.459	1.10	03-00042	\$16.50	
	.095	1.435	1.552	03-09800	\$37.55	
	.120	1.385	1.929	03-09900	\$34.50	
1-3/4	.156	1.312	2.447	03-10000	\$31.50	
	.188	1.250	2.885	03-10100	\$64.75	
	.049	1.652	.8902	03-10200	\$14.85	
	.058	1.634	1.048	03-10210	\$18.50	
	.065	1.620	1.170	03-10300	\$13.50	
1-7/8	.095	1.560	1.679	03-10400	\$37.50	
	.120	1.510	2.089	03-10500	\$19.85	
	.188	1.375	3.136	03-10510	\$47.50	
	.250	1.375	2.249	03-10600	\$64.75	
	.049	1.902	1.021	03-10710	\$26.75	
2-1/4	.065	1.870	1.343	03-10800	\$19.85	
	.095	1.810	1.933	03-10900	\$37.50	
	.120	1.760	2.409	03-11000	\$21.60	
	.188	1.625	3.638	03-00193	\$31.95	
	.250	2.010	2.730	03-11100	\$30.50	
2-1/2	.095	1.81	1.933	03-11150	\$37.50	
	.120	2.000	6.008	03-11206	\$89.75	
	.120	2.260	3.050	03-11200	\$35.50	
	.125	2.510	3.370	03-11210	\$45.75	

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number.

Example: A 3 ft. length of tubing is p/n 03-00183-3.

### 4130 TUBING KITS

We furnish complete 4130 tubing kits for a variety of aircraft designs including the Skybolt, Pitts Special, Acro Sport, Starduster, Osprey, and many more. The kits contain sufficient round, square, & streamline tubing to produce the pieces shown on our materials list for each design. We urge the builder to verify his own materials list against ours. Request kit list you require & current quotation. Enjoy big savings by purchasing a complete tubing kit for your aircraft at one time.



### BARGAIN BAG 4130 TUBING

Starter Kit - An assortment of 4130 tubing, rod and bar in short lengths to practice welding. At least 15 ft. of tubing in assorted sizes and wall thicknesses. Furnished subject to availability of cutoffs.

P/N 03-15900 ..... \$48.50

# STEEL TUBING & ROD



## 4130 STREAMLINE TUBING MIL-T6736 NORMALIZED (SOLD IN PRE-CUT LENGTHS)

The prices for streamline tubing have increased sharply. The only manufacturer of streamline tubing, Columbia Summerill, have encountered problems with cracking on the trailing edge intermittently for many years and it has been a worrisome problem for builders. In an effort to control the situation, Columbia Summerill have installed sophisticated inspection equipment in their plant to assure that no cracked tubing gets into the field again. The cost of the equipment is reflected in the prices for the tubing which must be shared by all.

Major Axis	Minor Axis	Wall	Equivalent		Wt./ Ft.	Part No.	Price Per Ft
			Round Tension	Tubing Compr.			
1.150	.745	.035	7/8	7/16	0.314	03-00232	\$30.50
1.180	.500	.035	7/8"	7/16"	.3140	03-11400	\$31.95
1.30	.600	.049	1	5/8	0.498	03-00233	\$23.50
1.349	.571	.049	1"	5/8"	.4977	03-11500	\$37.55
1.645	.740	.049	1-1/4	3/4	0.629	03-00234	\$26.75
1.685	.714	.049	1-1/4"	3/4"	.6285	03-11600	\$65.75
1.990	.870	.049	1-1/2	1	0.759	03-00235	\$40.55
2.023	.857	.049	1-1/2"	1"	.7593	03-11700	\$84.75
2.360	.960	.049	1-3/4	1-1/8	0.890	03-00236	\$64.80
2.360	1.000	.049	1-3/4"	1-1/8"	.8902	03-11800	\$108.75
2.665	1.140	.065	2	1-1/2	1.343	03-00237	\$43.50
2.697	1.143	.065	2"	1-1/4"	1.021	03-00192	\$69.75
3.372	1.429	.049	2-1/2"	1-1/2"	1.283	03-12000	\$173.80

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number. Example: A 3 ft. length of tubing is p/n 03-00183-3.



## 4130 AIRFRAME SQUARE & RECTANGULAR TUBING MIL-T-6736 NORMALIZED (SOLD IN PRE-CUT LENGTHS)

O.D. (In.)	Wall (In.)	Weight Per Ft.	Part No.	Price Per Ft.
1/2 x 1/2	.035	.2213	03-12200	\$30.50
1/2 x 1	.065	.6055	03-12350	\$54.75
5/8 x 5/8	.035	.2808	03-12400	\$19.85
	.049	.4234	03-12500	\$31.50
	.065	.388	03-12600	\$26.75
3/4 x 3/4	.035	.3403	03-12700	\$49.90
	.049	.4671	03-12800	\$29.80
	.065	.6055	03-13000	\$25.70
1 x 1	.065	.7160	03-13300	\$35.50
	.035	.4593	03-13400	\$25.50
	.049	.6337	03-13500	\$23.50
3/4 x 1-1/2	.065	.8265	03-13700	\$56.75
	.049	.9057	03-13900	\$39.50
1 x 1-3/4	.065	1.158	03-13950	\$35.50

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number. Example: A 3 ft. length of tubing is p/n 03-00183-3.



## E-4340 ROUND STEEL ROD SPEC. MIL-S-8503 COLD FINISHED ANNEALED (SOLD IN PRE-CUT LENGTHS)

E4340 rod has high fatigue strength and maintains its hardness and strength qualities even at high temperatures. Excellent for use in highly stressed parts.

Meets AMS2032 and is furnished normalized and tempered cold finished.

Dia. (In.)	Wt./Ft. (Lbs.)	Part No.	Price / Ft.
1	2.67	03-26700	\$59.75
1-1/4	4.173	03-26850	\$40.85
1-3/8	5.049	03-26900	\$50.50
2	11.20	03-26950	\$105.95

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number. Example: A 3 ft. length of tubing is p/n 03-00183-3.



## STAINLESS STEEL TUBING (SOLD IN PRE-CUT LENGTHS)

Tubing Type	O.D.	Wall	Part No.	Price/Ft.
304 Welded	3/8"	.028"	03-16100	\$11.50
321 Welded	1-1/2"	.035"	03-16300	\$36.50
321 Welded	1- 3/4"	.035"	03-16400	\$49.50
321 Welded	2"	.035"	03-16500	\$64.75
304 Seamless	1/8	.020"	03-00148	\$19.85
304 Seamless	1/8"	.035"	03-16010	\$9.50
304 Seamless	3/16"	.035"	03-16020	\$15.50
304 Seamless	1/4"	.035"	03-16030	\$9.50
304 Seamless	5/16"	.035"	03-16040	\$9.50
304 Seamless	3/8"	.035"	03-16045	\$5.80
304 Seamless	1/2"	.035"	03-16050	\$19.85
304 Seamless	5/8"	.035"	03-16060	\$9.50
321 Seamless	1-1/4"	.028"	03-16540	\$33.50
321 Seamless	1-1/2"	.035"	03-16560	\$49.50

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number. Example: A 3 ft. length of tubing is p/n 03-00183-3.

## BUSHING STOCK 1015/1020 STEEL

Seamless mechanical tubing may be used either statically or dynamically. Its close tolerance, good finish and dense structure make it ideal for parts such as shafts, bushings, bearings, etc. Tensile strength 80,000 PSI. Drill or ream for proper bolt fit.

### SPECIFY CUTTING INSTRUCTIONS FOR SHIPMENT

O.D.	I.D.	Wall	Part No.	Price/Ft.
3/8"	1/4"	.065"	03-16700	\$10.50
1/2"	3/8"	.065"	03-16900	\$6.50

## ROUND BRASS SEAMLESS TUBING

O.D.	I.D.	Wall	Part No.	Price/Ft.
1/4"	3/16"	.032"	03-17300	\$3.80
7/16"	5/16"	.065"	03-17600	\$12.50
1/2"	3/8"	.065"	03-17800	\$14.60



## 4130 ROUND STEEL ROD COLD FINISHED SPEC. MLL-S-6758A-NORMALIZED (SOLD IN PRE-CUT LENGTHS)

Dia (In.)	Wt./Ft.	Part No.	Price / Ft.
1/8	.042	03-20100	\$4.99
3/16	.092	03-20200	\$1.87
1/4	.167	03-20300	\$4.35
5/16	.261	03-20400	\$4.60
3/8	.376	03-20500	\$4.35
7/16	.511	03-20600	\$5.80
1/2	.668	03-20700	\$18.55
9/16	.845	03-20800	\$9.50
5/8	1.043	03-20900	\$30.50
3/4	1.502	03-21000	\$20.50
7/8	2.044	03-21100	\$33.65
1	2.670	03-21200	\$33.90
1-1/4	4.173	03-21300	\$21.60
1-3/8	5.049	03-21400	\$57.75
1-1/2	6.008	03-21500	\$60.75
1-3/4	8.178	03-21600	\$104.80

Available in 1', 2', 3', 4', 5', 6', 8', 10' and 17' pre-cut lengths. Use basic p/n and add -1, -2, -3, -4, -5, -6, -8, -10 or -17 to complete the part number. Example: A 3 ft. length of tubing is p/n 03-00183-3.

## STAINLESS STEEL ROD TYPE 304 CD

3/16" Diameter type 304 CD stainless steel rod. Used in "new canard" for Long-EZ as specified by RAF.....P/N 03-26600 ..... \$8.50/ft.



## 3/8" PIPER CHANNEL

Available in mild steel. 0.020" thick. 6-ft. length .....P/N 05-04564 .....\$18.65

IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER. PLEASE INDICATE AT TIME OF ORDER.

WWW.AIRCRAFTSPRUCE.CA

# 4130 SHEET



## 4130 STEEL SHEETS & STRIPS MIL-S-6345A NORMALIZED

This chromium-molybdenum alloy is one of the most widely used aircraft steels because of its combination of weldability, ease of fabrication and mild hardenability. It will respond to heat treatment to high strength levels and yet, in the annealed condition, it has adequate strength for many applications. Used for the manufacture of parts and components. Tensile strength 75,000-85,000 PSI. Furnished cold-rolled and oiled in sheet thicknesses of .025-.125 inch. Sheets of .190-.250 inch and greater thickness are hot-rolled, pickled and oiled. Sheared to sheet and strip sizes listed below. Subject to availability of normalized sheet, annealed 4130 sheet may be substituted.

### 4130 STEEL SHEET

Thickness (In.)	Price per Piece														Wt.** (Lbs.)
	6" x 12'		9" x 9"		9" x 18"		18" x 18"		18" x 36"		18" x 72"				
	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price			
.025	03-21800	\$2.78	03-21850	\$5.35	03-21900	\$7.50	03-22000	\$19.85	03-22100	\$39.70	03-22150	\$79.75	2.30		
.032	03-22510	\$7.60	03-22515	\$8.50	03-22520	\$16.85	03-22525	\$33.65	03-22530	\$67.75	03-22535	\$134.75	---		
.040	03-22600	\$6.50	03-22650	\$6.90	03-22700	\$10.85	03-22800	\$27.50	03-22900	\$54.75	03-22950	\$108.75	3.75		
.050	03-23000	\$3.50	03-23050	\$7.95	03-23100	\$16.50	03-23200	\$31.95	03-23300	\$62.99	03-23350	\$125.75	4.80		
.063	03-23400	\$11.50	03-23450	\$15.50	03-23500	\$26.85	03-23600	\$49.80	03-23700	\$96.75	03-23750	\$191.75	5.85		
.071	03-23800	\$11.50	03-23850	\$11.99	03-23900	\$18.99	03-24000	\$37.95	03-24100	\$94.75	03-24150	\$189.75	6.55		
.080	03-24200	\$11.50	03-24250	\$14.70	03-24300	\$25.65	03-24400	\$47.55	03-24500	\$91.75	03-24550	\$182.75	7.15		
.090	03-24600	\$21.60	03-25500	\$22.50	03-24700	\$35.75	03-24800	\$89.75	03-24900	\$143.75	03-24950	\$357.00	8.15		
.100	03-25000	\$14.85	---	---	03-25100	\$33.65	03-25200	\$53.75	03-25300	\$105.95	03-25350	\$263.95	10.45		
.125	03-55300	\$30.50	03-25370	\$32.50	03-25400	\$69.90	03-25500	\$129.75	03-25600	\$248.95	---	---	11.25		
.190	---	---	03-25660	\$44.60	03-25700	\$71.75	03-25750	\$185.90	03-26025	\$357.00	---	---	17.50		
.250	---	---	03-25850	\$42.50	03-25900	\$83.75	03-25950	\$166.90	03-26050	\$333.00	03-00106	\$533.00	94.00		

\*\* Wt. per 18" x 18" sheet.

Less 10% discount on 6 sheets 18" x 36" or 3 sheets of 18" x 72" per part number.

### 4130 STEEL STRIPS

Thickness	Size	Part No.	Price*
.025	5/8" x 72"	03-18000-6	\$2.23
.025	1" x 72"	03-18100-6	\$4.75
.032	5/8" x 72"	03-18110-6	\$5.35
.032	1" x 72"	03-18120-6	\$7.60
.032	2" x 72"	03-18130-6	\$12.50
.032	3" x 72"	03-18140-6	\$22.50
.040	5/8" x 72"	03-18200-6	\$3.60
.040	1" x 72"	03-18300-6	\$6.50
.040	2" x 72"	03-18310-6	\$9.65
.040	3" x 72"	03-18320-6	\$14.50
.050	1" x 72"	03-18400-6	\$7.60
.050	2" x 72"	03-18410-6	\$15.50
.050	3" x 72"	03-18420-6	\$21.60
.063	5/8" x 72"	03-18500-6	\$7.70
.063	3/4" x 72"	03-18600-6	\$7.70
.063	1" x 72"	03-18700-6	\$11.50
.063	1-1/4" x 72"	03-18800-6	\$14.70
.063	1-1/2" x 72"	03-18900-6	\$12.50
.063	2" x 72"	03-19000-6	\$23.50
.063	3" x 72"	03-19100-6	\$24.50
.071	5/8" x 72"	03-19180-6	\$5.35
.071	1" x 72"	03-19200-6	\$11.50
.071	2" x 72"	03-19210-6	\$21.60
.071	3" x 72"	03-19220-6	\$25.55
.080	5/8" x 72"	03-19280-6	\$6.50
.080	1" x 72"	03-19290-6	\$8.99
.080	2" x 72"	03-19300-6	\$16.50
.090	1" x 72"	03-19400-6	\$21.60
.090	1-1/2" x 72"	03-19500-6	\$29.75
.090	2" x 72"	03-19520-6	\$42.90
.090	3" x 72"	03-19600-6	\$59.75
.100	1" x 72"	03-19610-6	\$14.85
.100	1-1/2" x 72"	03-19620-6	\$17.60
.100	3" x 72"	03-19630-6	\$35.50
.125	1" x 72"	03-19700-6	\$30.50
.125	1-1/2" x 72"	03-19800-6	\$40.55
.125	2" x 72"	03-19820-6	\$59.75
.125	3" x 72"	03-19900-6	\$64.75
.250	1-1/4" x 18"	03-20000	\$13.50

\* 3-Ft. lengths available at the half price of 6' lengths.

6 ft. lengths are subject to UPS oversize charges. Consider 3 ft. lengths which ship at cheaper rates

### 4130 STEEL SHEET

(As Used in Christavia Kits)

Thickness	Size	Part No.	Price
.040	8" x 8"	03-56302	\$4.65
.040	12" x 12"	03-56304	\$12.50
.040	12" x 20"	03-56316	\$16.50
.040	10" x 26"	03-56312	\$17.50
.040	12" x 24"	03-56306	\$24.50
.040	14" x 30"	03-56308	\$28.50
.040	18" x 30"	03-56310	\$36.60
.040	24" x 24"	03-56314	---
.050	4" x 24"	03-56320	\$7.50
.050	12" x 12"	03-56318	\$14.70
.050	8" x 24"	03-56322	\$18.65
.050	12" x 24"	03-56324	\$28.50
.063	10" x 10"	03-56326	\$15.50
.063	10" x 14"	03-56332	\$15.90
.063	12" x 12"	03-56328	\$23.50
.063	12" x 24"	03-56330	\$33.85
.071	4" x 4"	03-56334	\$1.83
.071	12" x 12"	03-56336	\$17.50
.071	12" x 24"	03-56338	\$31.95
.080	2" x 10"	03-56354	\$2.93
.080	12" x 24"	03-56340	\$40.55
.090	2" x 10"	03-56344	\$4.65
.090	6" x 8"	03-56342	\$26.75
.090	12" x 24"	03-56346	\$79.75
.125	10" x 24"	03-56348	\$71.75
.125	12" x 24"	03-56350	\$109.99

### E4340 RECTANGULAR

#### FLAT STEEL

#### SPEC. MIL-S-5000 ANNEALED

This chromium-nickel-molybdenum alloy, "king" of the hardening grades of alloy steels, possesses much deeper hardenability than the 4100 series. The fatigue-tensile ratio makes it ideal for highly stressed parts such as landing gear legs, and is often referred to as "spring steel". Tensile strength is about 110,000 PSI. It is difficult to weld but can be welded by any of the common welding processes providing the section is preheated and stress relieved after welding.

Size (In.)	Wt./Ft (Lbs.)	Part No.	Price/Ft.
1/4 x 1-1/2	1.275	03-26100	\$26.95
1/4 x 2	1.702	03-26150	\$24.50
3/8 x 2	2.550	03-26200	\$54.75
1/2 x 3	5.100	03-26300	\$74.75
1/2 x 4	6.800	03-26400	\$104.75

### VACUUM MELTED LOW

#### ALLOY 4130 STEEL

#### WELDING WIRE

This high quality welding rod is produced from vacuum melted material. This material has ultra-low levels of oxygen, hydrogen, and nitrogen and is extremely low in trace elements. This rod is cleaner than standard rods and is the best available for 4130 welding. .062 dia. 36" long. Approx. 32 units per pound.

P/N 03-27600 ..... \$89.75/lb.

#### BRASS BRAZING ROD

1/16" ..... P/N 03-27625 ..... \$32.50/lb.  
3/32" ..... P/N 03-00118 ..... \$24.65/lb.

#### WELDING ROD NO. 7



For big-strength welds in steel plate, sheet, structural shapes, pipe and steel castings. Supplied in 36" lengths in sizes 1/16", 3/32" and 1/8".

**NO. 32CMS** - Recommended for 4130 steel structures for most satisfactory results. This rod is heat-treatable after welding.

1/16" Dia. .... P/N 03-27000 ..... \$59.75/lb.  
1/8" Dia. .... P/N 03-27200 ..... \$21.99/lb.

**NO. 7** - Used in general commercial welding and by many mechanics for non-heat-treated airframe repairs.

1/16" Dia. .... P/N 03-27300 ..... \$25.75/lb.  
1/8" Dia. .... P/N 03-27500 ..... \$13.50/lb.

#### WELD BRUSH



Stainless steel bristles set in curved wooden handle. Just right for cleaning welds. 1/2" Wide x 8" Long ..... P/N 03-26500 ..... \$3.90

For Aluminum Welding Rod, see page 56.  
For Welding Equipment Tools Section.

IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER.  
PLEASE INDICATE AT TIME OF ORDER

# ALUMINUM – THE MOST COMMON GRADES

**1100** This grade is commercially pure aluminum. It is soft and ductile and has excellent workability. It is ideal for applications involving intricate forming because it work hardens more slowly than other alloys. It is the most weldable of aluminum alloys, by any method. It is non heat-treatable. It has excellent resistance to corrosion and is widely used in the chemical and food processing industries. It responds well to decorative finishes which make it suitable for giftware.

**2011** This is the most free-machining of the common aluminum alloys. It also has excellent mechanical properties. Thus, it is widely used for automatic screw machine products in parts requiring extensive machining.

**2014 & 2017** The 2017 alloy combines excellent machinability and high strength with the result that it is one of the most widely used alloys for automatic screw machine work. It is a tough, ductile alloy suitable for heavy-duty structural parts. Its strength is slightly less than that of 2014.

**2024** This is one of the best known of the high strength aluminum alloys. With its high strength and excellent fatigue resistance, it is used to advantage on structures and parts where good strength-to-weight ratio is desired. It is readily machined to a high finish. It is readily formed in the annealed condition and may be subsequently heat treated. Arc or gas welding is generally not recommended, although this alloy may be spot, seam or flash welded. Since corrosion resistance is relatively low, 2024 is commonly used with an anodized finish or in clad form ("Alclad") with a thin surface layer of high purity aluminum. Applications: aircraft structural components, aircraft fittings, hardware, truck wheels and parts for the transportation industry.

**3003** This is the most widely used of all aluminum alloys. It is essentially commercially pure aluminum with the addition of manganese which increases the strength some 20% over the 1100 grade. Thus, it has all the excellent characteristics of 1100 with higher strength. It has excellent corrosion resistance. It has excellent workability and it may be deep drawn or spun, welded or brazed. It is non heat treatable. Applications: cooking utensils, decorative trim, awnings, siding, storage tanks, chemical equipment.

**5005** This alloy is generally considered to be an improved version of 3003. It has the same general mechanical properties as 3003 but appears to stand up better in actual service. It is readily workable. It can be deep drawn or spun, welded or brazed. It has excellent corrosion resistance. It is non heat-treatable. It is well suited for anodizing and has less tendency to streak or discolor. Applications same as 3003.

**5052** This is the highest strength alloy of the more common non heat-treatable grades. Fatigue strength is higher than most aluminum alloys. In addition this grade has particularly good resistance to marine atmosphere and salt water corrosion. It has excellent workability. It may be drawn or formed into intricate shapes and its slightly greater strength in the annealed condition minimizes tearing that occurs in 1100 and 3003. Applications: Used in a wide variety of applications from aircraft components to home appliances, marine and transportation industry parts, heavy duty cooking utensils and equipment for bulk processing of food.

**5083 & 5086** For many years there has been a need for aluminum sheet and plate alloys that would offer, for high strength welded applications, several distinct benefits over such alloys as 5052 and 6061. Some of the benefits fabricators have been seeking are greater design efficiency, better welding characteristics, good forming properties, excellent resistance to corrosion and the same economy as in other non heat-treatable alloys. Metallurgical research has developed 5083 and 5086 as superior weldable alloys which fill these needs. Both alloys have virtually the same characteristics with 5083 having slightly higher mechanical properties due to the increased manganese content over 5086. Applications: unfired pressure vessels, missile containers, heavy-duty truck and trailer assemblies, boat hulls and superstructures.

**6061** This is the least expensive and most versatile of the heat-treatable aluminum alloys. It has most of the good qualities of aluminum. It offers a range of good mechanical properties and good corrosion resistance. It can be fabricated by most of the commonly used techniques. In the annealed condition it has good workability. In the T4 condition fairly severe forming operations may be accomplished. The full T6 properties may be obtained by artificial aging. It is welded by all methods and can be furnace brazed. It is available in the clad form ("Alclad") with a thin surface layer of high purity aluminum to improve both appearance and corrosion resistance. Applications: This grade is used for a wide variety of products and applications from truck bodies and frames to screw machine parts and structural components. 6061 is used where appearance and better corrosion resistance with good strength are required.

**6063** This grade is commonly referred to as the architectural alloy. It was developed as an extrusion alloy with relatively high tensile properties, excellent finishing characteristics and a high degree of resistance to corrosion. This alloy is most often found in various interior and exterior architectural applications, such as windows, doors, store fronts and assorted trim items. It is the alloy best suited for anodizing applications - either plain or in a variety of colors.

**7075** This is one of the highest strength aluminum alloys available. Its strength-to weight ratio is excellent and it is ideally used for highly stressed parts. It may be formed in the annealed condition and subsequently heat treated. Spot or flash welding can be used, although arc and gas welding are not recommended. It is available in the clad ("Alclad") form to improve the corrosion resistance with the over-all high strength being only moderately affected. Applications: Used where highest strength is needed.

ME

# ALUMINUM ALLOY DESIGNATIONS

## ALUMINUM ALLOY DESIGNATIONS

The aluminum industry uses a four-digit index system for the designation of its wrought aluminum alloys.

As outlined below, the first digit indicates the alloy group according to the major alloying elements.

### 1XXX SERIES

In this group, minimum aluminum content is 99%, and there is no major alloying element.

The second digit indicates modifications in impurity limits. If the second digit is zero, there is no special control on individual impurities. Digits 1 through 9, which are assigned consecutively as needed, indicate special control of one or more individual impurities.

The last two digits indicate specific minimum aluminum content. Although the absolute minimum aluminum content in this group is 99% the minimum for certain grades is higher than 99%, and the last two digits represent the hundredths of a per cent over 99.

Thus, 1030 would indicate 99.30% minimum aluminum, without special control on individual impurities. The designations 1130, 1230, 1330, etc., indicate the same purity with special control on one or more impurities. Likewise, 1100 indicates minimum aluminum content of 99.00% with individual impurity control.

### 2XXX THROUGH 9XXX SERIES

The major alloying elements are indicated by the first digit, as follows:

2xxx	Copper
3xxx	Manganese
4xxx	Silicon
5xxx	Magnesium
6xxx	Magnesium and silicon
7xxx	Zinc
8xxx	Other element
9xxx	Unused series

The second digit indicates alloy modification. If the second digit is zero, it indicates the original alloy; digits 1 through 9, which are assigned consecutively, indicate alloy modifications. The last two digits have no special significance, serving only to identify the different alloys in the group.

### EXPERIMENTAL ALLOYS

Experimental alloys are designated according to the four digit system, but they are prefixed by the letter X. The prefix is dropped when the alloy becomes standard. During development, and before they are designated as experimental, new alloys are identified by serial numbers assigned by their originators. Use of the serial number is discontinued when the X number is assigned.

## ALUMINUM TEMPER DESIGNATIONS

Temper designations of wrought aluminum alloys consist of suffixes to the numeric alloy designations. For example, in 3003-H14, 3003 denotes the alloy and "H14" denotes the temper, or degree of hardness. The temper designation also reveals the method by which the hardness was obtained. Temper designations differ between non heat-treatable alloys and heat-treatable alloys, and their meanings are given below:

### NON HEAT-TREATABLE ALLOYS

The letter "H" is always followed by 2 or 3 digits. The first digit indicates the particular method used to obtain the temper, as follows:

- H1 means strain hardened only.
- H2 means strain hardened, then partially annealed.
- H3 means strain hardened, then stabilized.

The temper is indicated by the second digit as follows:

2	1/4 hard
4	1/2 hard
6	3/4 hard
8	full hard
9	extra hard

Added digits indicate modification of standard practice.

### HEAT-TREATABLE ALLOYS

- F As fabricated
- O Annealed
- T Heat treated

The letter "T" is always followed by one or more digits. These digits indicate the method used to produce the stable tempers, as follows:

- T3 Solution heat treated, then cold worked.
  - T351 Solution heat treated, stress-relieved stretched, then cold worked.
  - T36 Solution heat treated, then cold worked (controlled).
  - T4 Solution heat treated, then naturally aged.
  - T451 Solution heat treated, then stress relieved stretched.
  - T5 Artificially aged only.
  - T6 Solution heat treated, then artificially aged.
  - T61 Solution heat treated (boiling water quench), then artificially aged.
  - T651 Solution heat treated, stress-relieved stretched, then artificially aged (precipitation heat treatment).
  - T652 Solution heat treated, stress relieved by compression, then artificially aged.
  - T7 Solution heat treated, then stabilized.
  - T8 Solution heat treated, cold worked, then artificially aged.
  - T81 Solution heat treated, cold worked (controlled), then artificially aged.
  - T851 Solution heat treated, cold worked, stress-relieved stretched, then artificially aged.
  - T9 Solution heat treated, artificially aged, then cold worked.
  - T10 Artificially aged, then cold worked.
- Added digits indicate modification of standard practice.

## COMPARISON OF MODERN & OLD SYSTEMS OF ALUMINUM ALLOY DESIGNATION

Although the old system of aluminum identification has been obsolete for many years, stock with the old markings is still occasionally found. The following comparison is presented as an aid in identifying such materials in terms of the modern system.

In the old system, alloy composition was indicated by a one- or two-digit number followed by the letter "S" to indicate that it was a wrought alloy, i.e., an alloy that could be shaped by rolling, drawing or forging. Any variation in the basic composition was indicated by a letter preceding the numerical alloy designation. For example, A17S was a modification of the basic alloy 17S. In modern terminology these two alloys are designated 2117S and 2017S, respectively. Temper was designated by a second letter: "O" for soft (annealed), "H" for strain hardness of non heat-treatable alloys, and "T" for hardness of heat-treatable alloys. Degree of hardness of non heat-treatable alloys was indicated by a fraction preceding the letter "H". For example, 3S1/4H would be quarter-hard 3S alloy.

The following Table gives examples of the old and modern designations of some common aluminum alloys.

Modern System	Old System
1100	2S
3003	3S
3003-0	3SO
2014	14S
2017	17S
2117	A17S
2018	18S
2218	B18S
2024T	24ST
5052	52S
7075T6	75ST6

# ALUMINUM PLATE & SHEET DATA

## ALUMINUM ALLOY CHARACTERISTICS

Alloy	General Availability					Typical Characteristics*							Specified Mechanical Properties						
	Temper	Flat Sheet	Coil Sheet	Cut to Length Sheet	Plate	Corrosion Resistance	Cold Workability	Machinability	Brazability	Weldability			Where range is shown, property varies with specific width and/or thickness dimensions						
										Gas	Arc	Resistance, spot and steam	Tensile Strength - Ksi		Elongation in 2" or 4 times diameter - percent minimum				
													Ultimate		Yield		Sheet	Plate	
													Minimum	Maximum	Minimum	Maximum			
Non-Heat Treatable Alloys	1100	O	X	X	X	-	A	A	D	A	A	A	B	11	15.5	3.51	-	15-30	-
		H14	X	X	X	-	A	A	C	A	A	A	A	16	21	141	-	3-9	-
		F	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
	3003	O	X	X	X	-	A	A	D	A	A	A	B	14	19	51	-	14-25	-
		H14	X	X	X	-	A	B	C	A	A	A	A	20	26	171	-	1-7	-
		F	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
	5052	O	X	X	X	-	A	A	D	C	A	A	B	25	31	9.51	-	15-20	-
		H32	X	X	X	X	A	B	C	C	A	A	A	31	38	231	-	4-9	11-12
		H34	X	X	X	-	A	B	C	C	A	A	A	34	41	261	-	3-7	-
Heat-Treatable Alloys	Bare 2024	O <sup>3</sup>	X	-	-	X	C	B	D	D	D	C	B	-	32	-	14	12	12
		T3	X	-	-	-	C	C	B	D	D	C	A	63-64	-	42	-	10-15	-
		T351	-	-	-	X	C	C	B	D	D	C	A	56-64	-	40-41	-	-	4-12
		T42 <sup>2</sup>	-	-	-	-	C	C	B	D	D	C	A	58-62	-	38	-	12-15	4-12
	Alclad 2024	O <sup>3</sup>	X	X	-	X	A	B	D	D	D	C	B	-	30-32	-	14	10-12	12
		T3	X	-	-	-	A	D	B	D	D	C	A	58-63	-	39-40	-	10-15	-
		T351	-	-	-	x	a	d	b	d	d	c	a	56-63	-	40-41	-	-	4-8
		T42 <sup>2</sup>	-	-	-	-	a	d	b	d	d	c	a	55-61	-	34-38	-	10-15	4-12
	6061	O <sup>31</sup>	X	X	-	X	A	A	D	A	A	A	B	-	22	12	12	10-18	16-18
		T4	X	-	-	-	A	C	C	A	A	A	A	30	-	16	-	10-16	-
		T6	X	-	-	-	A	C	C	A	A	A	A	42	-	35	-	4-10	-
		T651	-	-	-	X	A	C	C	A	A	A	A	40-42	-	35	-	-	6-10
	Bare 7075	T42 <sup>2</sup>	-	-	-	-	A	C	C	A	A	A	A	30	-	14	-	10-16	16-18
		O <sup>1</sup>	X	-	-	-	C	D	D	D	D	D	B	-	40	-	21	10	-
		T6	X	-	-	-	C	D	B	D	D	D	B	76-77	-	65-66	-	7-8	-
		T651	-	-	-	X	C	D	B	D	D	D	B	67-77	-	53-66	-	-	2-8
	Alclad 7075	O <sup>1</sup>	X	X	-	-	A	B	C	D	D	D	B	-	36-39	-	20-21	9-10	-
		T6	X	-	-	-	A	D	B	D	D	D	B	68-75	-	58-64	-	5-8	-



Ratings A, B, C, D are relative in decreasing order of merit. weldability and brazability ratings are specifically defined as:

- A - Generally weldable by all commercial procedures and methods.
- B - Weldable with special technique or specific applications which justify preliminary trials or testing to develop welding procedure and weld performance.
- C - Limited weldability because of crack sensitivity or loss on resistance to corrosion, and all mechanical properties.
- D - No commonly used welding methods have so far been developed.

- 1 - These yield strengths not determined unless specifically requested.
- 2 - Although sheet and plate are not sold in this temper, material heat treated from any temper by the user should attain the mechanical properties applicable to this temper.
- 3 - Annealed (O temper) material shall, upon heat treatment, be capable of developing the mechanical properties applicable to T 42 temper material.
- 4 - Annealed (O temper) material shall, upon heat treatment and aging, be capable of developing the mechanical properties applicable to T 67 temper material.

### APPROXIMATE MINIMUM RADII FOR 90° COLD BEND

Where range is shown, use smaller radius with extreme caution.

Alloy	Temper	RADII For Various Thicknesses Expresses in Terms of Thickness "t"							
		1/64 Inch	1/32 Inch	1/16 Inch	1/8 Inch	3/16 Inch	1/4 Inch	3/8 Inch	1/2 Inch
1100	-O	O	O	O	O	O	O	O	1t-2t
	-H12	O	O	O	O	O-1t	O-1t	O-1t	1t-3t
	-H14	O	O	O	O	O-1t	O-1t	O-1t	2t-3t
	-H16	O	O	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2-1/2t-3-1/2t	3t-4t
	-H18	O-1t	1/2-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	2t-4t	3t-5t	3t-6t
Alclad 2014	-O	O	O	O	O	O-1t	O-1t	1-1/2t-3t	3t-5t
	-T3	1t-2t	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-6t	5t-7t	5-1/2t-8t
	-T4	1t-2t	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-6t	5t-7t	5-1/2t-8t
	-T6	2t-4t	3t-5t	3t-5t	4t-6t	5t-7t	6t-10t	7t-10t	8t-11t
	-O <sup>2</sup>	O	O	O	O	O-1t	O-1t	1-1/2t-3t	3t-5t
2024	-T3 <sup>23</sup>	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-6t	5t-7t	6t-8t	6t-9t
	-36 <sup>2</sup>	2t-4t	3t-5t	4t-6t	5t-7t	5t-7t	6t-10t	7t-10t	8t-11t
	-T4 <sup>2</sup>	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-6t	5t-7t	6t-8t	6t-9t
	-T81	3-1/2t-5t	4-1/2t-6t	5t-7t	6-1/2t-8t	7t-9t	8t-10t	9t-11t	9t-12t
	-T86	4t-5-1/2t	5t-7t	6t-8t	7t-10t	8t-11t	10t-13t	10t-13t	1t-2t
3003	-O	O	O	O	O	O	O	O	1t-2t
	-H12	O	O	O	O	O-1t	O-1t	O-1t	1t-3t
	-H14	O	O	O	O	O-1t	O-1t	1/2t-1-1/2t	1-1/2t-3t
	-H16	O-1t	O1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	1-1/2t-4t	3t-5t
	-H18	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-7t	5t-8t
5052	-O	O	O	O	O	O-1t	O-1t	1/2t-1-1/2t	1t-2t
	-H32	O	O	O	O-1t	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-2-1/2t
	-H34	O	O	O	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2-1/2t-3-1/2t
	-H36	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	2t-4t	2-1/2t-5t	3t-5-1/2t
	-H38	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-7t	5t-8t
6061	-O	O	O	O	O	O-1t	O-1t	1/2t-2t	1t-1-1/2t
	-T4 <sup>2</sup>	O-1t	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	2-1/2t-4t	3t-5t
	-T6 <sup>2</sup>	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	3t-4t	3-1/2t-5-1/2t	4t-6t
7075	-O	O	O	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2-1/2t-4t	3t-5t
	-T6 <sup>2</sup>	2t-4t	3t-5t	4t-6t	5t-7t	5t-7t	6t-10t	7t-11t	7t-12t

1. Minimum permissible radius over which sheet or plate may be bent varies with nature of forming operation, type of forming equipment, and design and conditions of tools. Minimum working radius for a given material or hardest alloy and temper for a given radius can be ascertained only by actual trial under contemplated conditions of fabrication. Where range is shown, use a smaller radius with extreme caution.

2. Alclad sheet can be bent over slightly smaller radii than the corresponding tempers of the uncoated alloy.  
3. Immediately after quenching, this alloy can be formed over appreciable smaller radii. 4217661360076962

# ALUMINUM – STAINLESS-GALVANIZED SHEET

## ALUMINUM SHEET

Aluminum alloy sheet is sold in the thicknesses and sheet sizes shown in the table. Order by part number. No guarantee against scratches is possible due to the handling required to cut sheets to sizes shown.

**CUTTING CHARGES:** We can cut standard sheet sizes shown in the table to special sizes, but special order cutting charges will apply. Cutting Charges range from \$20 to \$50 or more depending on sizes desired and number of cuts. Special shapes are not cut, only straight edges. Request quote on Cutting Charges prior to order, as special cut pieces are not returnable.

Alloy & Temper	Surface Finish	Thickness (In.)	Wt./ Sq.Ft. (Lbs.)	Price Per Sheet									
				4' x 12'		4' x 8'		4' x 6'		4' x 4'		2' x 4'	
				Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price	Part No.	Price
2024T3	Alclad	.016	.230	03-27710	\$313.00	03-27720	\$209.95	03-27730	\$156.75	03-27740	\$103.75	03-27750	\$53.90
		.020	.288	03-27810	\$275.95	03-27820	\$184.90	03-27830	\$137.99	03-27840	\$91.75	03-27850	\$46.95
		.025	.360	03-27910	\$336.00	03-27920	\$225.95	03-27930	\$168.75	03-27940	\$110.75	03-27950	\$57.75
		.032	.461	03-28010	\$313.00	03-28020	\$209.95	03-28030	\$156.75	03-28040	\$103.75	03-28050	\$53.90
		.040	.576	03-28110	\$343.00	03-28120	\$230.95	03-28130	\$171.75	03-28140	\$113.75	03-28150	\$58.75
		.050	.720	03-28210	\$444.00	03-28220	\$297.95	03-28230	\$221.95	03-28240	\$146.90	03-28250	\$75.75
		.063	.907	03-28310	\$597.00	03-28320	\$365.00	03-28330	\$271.95	03-28340	\$196.99	03-28350	\$101.75
		.071	1.02	03-28410	\$634.00	03-28420	\$387.00	03-28430	\$288.95	03-28440	\$209.95	03-28450	\$107.75
		.080	1.15	03-28510	\$758.00	03-28520	\$463.00	03-28530	\$345.00	03-28540	\$250.95	03-28550	\$128.85
		.090	1.30	03-28610	\$696.00	03-28620	\$467.00	03-28630	\$350.00	03-28640	\$230.95	03-28650	\$118.75
		.125	1.80	03-28710	\$1,160.00	03-28720	\$707.00	03-28730	\$528.00	03-28740	\$384.00	03-28750	\$197.75
		.160	-	03-70010	\$1,610.00	03-70020	\$1,073.00	03-70030	\$805.00	03-70040	\$537.00	03-70050	\$268.95
		.190	2.74	03-28810	\$1,734.00	03-28820	\$1,162.00	03-28830	\$867.00	03-28840	\$573.00	03-28850	\$295.95
		2024-0	Alclad	.250	3.60	03-28910	\$2,240.00	03-28920	\$1,365.00	03-28930	\$1,019.00	03-28940	\$673.00
.032	.461			03-29010	\$395.00	03-29020	\$241.95	03-29030	\$179.75	03-29040	\$130.75	03-29050	\$67.75
6061T4	Bare	.040	.576	03-29110	\$488.00	03-29120	\$298.95	03-29130	\$221.95	03-29140	\$160.85	03-29150	\$83.75
		.025	.353	03-29210	\$388.00	03-29220	\$235.95	03-29230	\$176.75	03-29240	\$116.99	03-29250	\$66.75
		.032	.452	03-29310	\$366.00	03-29320	\$223.95	03-29330	\$166.75	03-29340	\$110.75	03-29350	\$62.75
		.040	.564	03-29410	\$318.00	03-29420	\$193.75	03-29430	\$159.75	03-29440	\$95.75	03-29450	\$53.99
		.050	.706	03-29510	\$309.00	03-29520	\$187.75	03-29530	\$140.75	03-29540	\$92.75	03-29550	\$52.75
		.063	.889	03-29610	\$470.00	03-29620	\$286.95	03-29630	\$213.95	03-29640	\$140.75	03-29650	\$80.75
		.080	1.13	03-29710	\$828.00	03-29720	\$506.00	03-29730	\$377.00	03-29740	\$248.95	03-29750	\$127.99
		.125	1.76	03-29810	\$896.00	03-29820	\$547.00	03-29830	\$409.00	03-29840	\$268.95	03-29850	\$152.95
		.016	.228	03-08910	\$245.95	03-08920	\$147.75	03-08930	\$111.75	03-08940	\$74.75	03-08950	\$41.85
		.020	.285	03-09910	\$300.95	03-09920	\$180.75	03-09930	\$136.75	03-09940	\$90.75	03-09950	\$46.50
6061T6	Bare	.025	.353	03-29910	\$309.00	03-29920	\$206.95	03-29930	\$140.75	03-29940	\$92.75	03-29950	\$52.75
		.032	.452	03-30010	\$300.95	03-30020	\$183.75	03-30030	\$150.75	03-30040	\$99.85	03-30050	\$51.75
		.040	.570	03-31110	\$318.00	03-31120	\$193.75	03-31130	\$144.75	03-31140	\$104.75	03-31150	\$52.75
		.050	.713	03-31210	\$318.00	03-31220	\$190.75	03-31230	\$144.75	03-31240	\$104.75	03-31250	\$53.99
		.063	.889	03-30110	\$383.00	03-30120	\$256.95	03-30130	\$191.75	03-30140	\$115.75	03-30150	\$65.75
		.090	1.27	03-30210	\$674.00	03-30220	\$412.00	03-30230	\$339.00	03-30240	\$202.95	03-30250	\$114.99
		.125	1.76	03-30310	\$825.00	03-30320	\$503.00	03-30330	\$413.00	03-30340	\$272.95	03-30350	\$140.80
		.190	-	03-10010	\$1,330.00	03-10020	\$811.00	03-10030	\$605.00	03-10040	\$441.00	03-10050	\$226.95
		.020	.282	03-30410	\$230.95	03-30420	\$140.75	03-30430	\$104.75	03-30440	\$69.75	03-30450	\$35.65
		6061-0	Bare	.040	.564	03-30510	\$381.00	03-30520	\$232.95	03-30530	\$173.75	03-30540	\$114.75
.063	.889			03-30610	\$647.00	03-30620	\$395.00	03-30630	\$325.00	03-30640	\$213.95	03-30650	\$100.75
.080	1.13			03-30710	\$1,104.00	03-30720	\$674.00	03-30730	\$503.00	03-30740	\$332.00	03-30750	\$187.90
.025	.364			03-60010	\$438.00	03-60020	\$292.95	03-60030	\$219.95	03-60040	\$145.95	03-60050	\$74.75
7075T6	Alclad	.032	.466	03-61010	\$488.00	03-61020	\$296.95	03-61030	\$221.95	03-61040	\$147.75	03-61050	\$83.75
		.040	.582	03-62010	\$361.00	03-62020	\$239.95	03-62030	\$179.75	03-62040	\$119.95	03-62050	\$61.75
		.050	.727	03-63010	\$692.00	03-63020	\$463.00	03-63030	\$347.00	03-63040	\$230.95	03-63050	\$118.75
		.063	.916	03-64010	\$747.00	03-64020	\$453.00	03-64030	\$340.00	03-64040	\$248.95	03-64050	\$127.75
		.125	1.82	03-65010	\$1,001.00	03-65020	\$608.00	03-65030	\$456.00	03-65040	\$304.00	03-65050	\$171.75
7075-0	Alclad	.025	.364	03-66010	\$594.00	03-66020	\$396.00	03-66030	\$296.95	03-66040	\$197.75	03-66050	\$100.75
		.032	.466	S10	\$565.00	03-67020	\$344.00	03-67030	\$256.95	03-67040	\$170.99	03-67050	\$96.80
		.040	.582	03-68010	\$471.00	03-68020	\$315.00	03-68030	\$235.95	03-68040	\$156.99	03-68050	\$80.75
		.063	.916	03-69010	\$586.00	03-69020	\$391.00	03-69030	\$292.95	03-69040	\$195.75	03-69050	\$100.75

For 2'x2' piece of aluminum sheet, take 2'x4' price ÷ 2, and then add 15%. For 2'x2' piece, change last two digits of P/N to "60". Thicknesses of .016", .020", .025", .032", and .040" can be rolled to ship UPS, but will not be returnable if rolled. The softer and thicker the material, the harder it will be to return to a flat surface. Full sheets of heavier gauges or cut sheets exceeding 108" length plus girth (once down and once around) must be shipped by truck. Maximum sheet size for UPS shipment is 2' x 4'. **QUANTITY DISCOUNT SCHEDULE:** 10% on 6-10 Full Sheets; 15% on 11-15 Full Sheets. May be assorted thicknesses and alloys. Write for quotation on larger orders. Heavy gauge 2024T4 aluminum plate available in .375, .500 and .625 thickness. Indicate sheet size required.

### 3003H-14 SOFT ALUMINUM SHEET

Thick.	P/N #	4' x 12'	P/N #	4' x 8'	P/N #	4' x 6'	P/N #	4' x 4'
.020	03-31410	\$511.00**	03-31420	\$410.00	03-31430	\$308.00	03-31440	\$204.95
.025	03-32410	\$497.00	03-32420	\$298.95	03-32430	\$225.95	03-32440	\$148.99
.032	03-33410	\$224.95	03-33420	\$136.75	03-33430	\$101.99	03-33440	\$67.75
.040	03-34410	\$388.00	03-34420	\$232.95	03-34430	\$176.75	03-34440	\$116.99
.050	03-34510	\$240.95	03-34520	\$159.75	03-34530	\$110.75	03-34540	\$72.80
.063	03-34610	\$452.00	03-34620	\$298.95	03-34630	\$225.95	03-34640	\$148.99

\*\* Length of full sheet of .025 thickness is 10 ft.  
For 2'x4' pcs. of 3003H-14 use "45" as last 2 digits of P/N (Ex: 03-34645)

### 5052H-32 ALUMINUM SHEET FOR FUEL TANKS

5052H32 Aluminum alloy sheets for fabrication of fuel tanks. Available in full sheets (48"x144") & 1/2 sheets (48"x72") only, in .040 & .050 thicknesses. May be combined with other aluminum sheets for discount. See shipping specs above.

.032 Thickness	Full Sheet	P/N 03-30810	\$353.00
	Half Sheet	P/N 03-30860	\$176.75
.040 Thickness	Full Sheet	P/N 03-30900	\$206.95
	Half Sheet	P/N 03-30950	\$103.75
.050 Thickness	Full Sheet	P/N 03-31000	\$436.00
	Half Sheet	P/N 03-31050	\$218.95

### 016 ALUMINUM LEADING EDGE 2024T3



12" Wide X 12 ft. (rolled for mailing). Sold in 12 ft. lengths only. .... P/N 03-30800 .... \$78.75 Ea.  
18" Wide x 12 ft. (rolled for mailing). Sold in 12 ft. lengths only. .... P/N 03-30850 .. \$119.75 Ea.  
Other widths available at proportionate cost plus shearing charge.

### STAINLESS STEEL & GALVANIZED FIREWALL SHEET



Material	Width	Thkness (In.)	Weight/ Lin. Ft.(Lbs)	Part No.	Price/ Lin.Ft.
301 Stainless, 1/2 Hard	36"	.016	2.016	03-31200	\$42.50
304 Stainless	48"	.018	2.173	03-20010	\$34.65
302/304 Stainless, Ann.*	48"	.035	4.38	03-31300	\$122.75
Galvanized Sheet, 26 Ga.	48"	.022	2.718	03-31400	\$15.50

\* 2B Finish

Material	Size	Weight/Lin. Ft.(Lbs)	Part No.	Price ea.
301 SS 1/2 Hard	3' x .025"	26	03-00062	\$71.75

For 03-00062 Add -1 thru -9 for desired length in feet.

IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER. PLEASE INDICATE AT TIME OF ORDER

# ALUMINUM TUBING



## ROUND DRAWN ALUMINUM TUBING 2024T3

O.D. (In.)	I.D. (In.)	Wall Thickness	Wt./Ft. (Lb.)	Part No.	Price Per Ft.
1/4	.180	.035	.2081	03-31600	\$6.65
	.243	.035	.0366	03-31700	\$11.70
5/16	.215	.049	.0487	03-31800	\$14.50
	.305	.035	.0449	03-32000	\$10.60
3/8	.277	.049	.0602	03-32100	\$12.95
	.245	.065	.0755	03-32200	\$15.95
1/2	.430	.035	.0612	03-32500	\$11.85
	.402	.049	.0829	03-32600	\$11.65
	.384	.058	.0970	03-32700	\$12.95
5/8	.370	.065	.1061	03-32800	\$11.75
	.555	.035	.0775	03-32900	\$13.55
	.527	.049	.1060	03-33000	\$7.50
3/4	.509	.058	.1234	03-33100	\$25.50
	.495	.065	.1367	03-33200	\$11.50
	.680	.035	.0938	03-33300	\$14.99
7/8	.652	.049	.1288	03-33400	\$9.90
	.620	.065	.1670	03-33600	\$10.55
	.805	.035	.1423	03-33650	\$11.75
1	.777	.049	.1530	03-33700	\$14.50
	.759	.058	.1777	03-33800	\$15.95
	.745	.065	.1979	03-33900	\$16.50
1-1/4	.635	.120	.3398	03-34000	\$43.70
	.930	.035	.1250	03-34100	\$12.95
	.902	.049	.1754	03-34200	\$12.95
1-1/2	.884	.058	.2028	03-34250	\$17.50
	.870	.065	.2295	03-34400	\$14.50
	.834	.083	.2866	03-34500	\$25.50
1-3/8	1.180	.035	.1601	03-34600	\$14.90
	1.152	.049	.2213	03-34700	\$15.50
	1.120	.065	.3000	03-00045	\$28.50
1-1/2	1.277	.049	.2448	03-34800	\$22.70
	1.402	.049	.2683	03-34900	\$17.50
1-3/4	1.370	.065	.3519	03-35000	\$18.95
	1.250	.250	1.428	03-35075	\$47.65
2	1.870	.065	.4743	03-35200	\$35.50



## ROUND ALUMINUM TUBING 6061-0

Only available in 6' or 12' lengths. We can cut to smaller pieces for shipping, but total quantity ordered must equal 6 ft, 12 ft, 18 ft, 24 ft, etc. If manufacturing test reports are required, there is a minimum \$15.00 charge per order.

Please indicate in the special instructions box at the time of order that certs are required.

O.D. (In.)	I.D. (In.)	Wall Thickness	Wt./Ft. (Lb.)	Part No.	6 ft.	12 ft.
1/2	.430	.035	.0612	03-38500	\$45.50	\$90.90
3/4	.680	.035	.0920	03-38600	\$32.80	\$65.75
1	.930	.035	.1250	03-38700	\$40.99	\$81.99
1-1/4	1.180	.035	.1601	03-38800	\$86.75	\$173.75

Sold in full 6-ft or 12-ft lengths only. No charge for cutting to 8 ft or less for UPS shipment.



## 6061T6 SQUARE ALUMINUM TUBING

Size (In.)	Wall Thickness	Wt/Ft (Lb.)	Part No.	Price Per Ft.
1/2x1/2	.058	.156	03-00008	\$22.50
3/4x3/4	.049	.217	03-00009	\$7.80
1x1	.065	.300	03-38900	\$10.50
2x2	.125	1.120	03-00141	\$14.65
6061T6511 2x2	.190	1.420	03-00205	\$15.90
6063T52 2x2	.125	1.120	03-39000	\$13.50



## 5052-0 ALUMINUM TUBING

Rigid 5052-0 aluminum alloy tubing is used for low and medium pressure hydraulic systems, fuel lines and oil lines. This tubing will withstand a higher pressure than 3003-0 tubing.

O.D. (In.)	I.D. (In.)	Thickness	Wt./Ft. (Lb.)	Part No.	Price Per Ft.
1/8	.069	.035	.0101	03-39100	\$31.55
3/16	.132	.035	.0168	03-39200	\$5.50
	.152	.049	.0371	03-39250	\$6.85
1/4	.180	.035	.0281	03-39300	\$2.36
	.242	.035	.0360	03-39400	\$5.35
3/8	.305	.035	.0449	03-39500	\$2.78
	.277	.049	.0602	03-39550	\$4.35
1/2	.436	.035	.0612	03-39600	\$3.80
	.402	.049	.0829	03-39650	\$3.95
5/8	.555	.035	.0760	03-39700	\$3.60
	.527	.049	.1060	03-39750	\$7.50
3/4	.680	.035	.0938	03-39800	\$5.35
	.652	.049	.1288	03-39850	\$11.50
1	.930	.035	.1256	03-39900	\$6.65
	.902	.049	.1754	03-39950	\$8.75

Sold in full 6-ft. or 12-ft. lengths only. No charge for cutting to 8 ft. or less for UPS shipment. Unlisted sizes of aluminum tubing available in full 12' lengths. No charge for cutting to 8' or less for UPS. Longer lengths shipped via truck. **Ordering tubing/bar by the foot. Add a dash number after part number to indicate length of tubing required. Ex: 3 ft required add -3, 03-00100-3.**

## ROUND ALUMINUM TUBING 6061T6

O.D. (In.)	I.D. (In.)	Wall Thickness	Wt./Ft. (Lb.)	Part No.	Price Per Ft.
3/16	.118	.035	---	03-00012	\$8.75
	.180	.035	.0281	03-35300	\$2.24
1/4	.152	.049	.036	03-00014	\$11.50
	.215	.049	.0423	03-35350	\$5.35
5/16	.197	.058	.0561	03-35400	\$12.95
	.305	.035	.0449	03-35500	\$3.35
3/8	.259	.058	.0694	03-35600	\$15.50
	.245	.065	.0755	03-35700	\$9.90
	.209	.083	.0895	03-35750	\$31.50
7/16	.308	.065	.090	03-35775	\$6.90
	.444	.028	.0496	03-35795	\$5.35
	.430	.035	.0612	03-35800	\$3.90
1/2	.402	.049	.0816	03-35850	\$3.99
	.384	.058	.0962	03-35900	\$17.80
	.370	.065	.1040	03-35950	\$5.35
	.260	.120	.168	03-35975	\$6.65
5/8	.555	.035	.0775	03-36000	\$11.50
	.527	.049	.1060	03-36010	\$20.50
	.509	.058	.1227	03-36050	\$8.50
3/4	.495	.065	.1367	03-36100	\$5.35
	.680	.035	.093	03-36150	\$5.35
	.652	.049	.1288	03-36200	\$11.95
7/8	.634	.058	.1506	03-36300	\$12.95
	.620	.065	.164	03-36350	\$8.55
	.805	.035	.109	03-36375	\$4.45
1	.777	.049	.150	03-36380	\$7.60
	.759	.058	.1777	03-36400	\$15.95
	.745	.065	.1983	03-36450	\$16.50
1-1/4	.635	.120	.3350	03-36500	\$12.95
	.930	.035	.1275	03-36600	\$5.35
	.902	.049	.1754	03-36610	\$7.50
1-1/2	.884	.058	.2060	03-36700	\$8.50
	.870	.065	.2295	03-36800	\$19.70
	.830	.083	.281	03-36850	\$6.65
1-3/8	.810	.095	.3244	03-36900	\$8.50
	.750	.125	.404	03-36950	\$8.85
	.500	.250	.693	03-36975	\$25.50
1-1/8	1.027	.049	.185	03-36980	\$8.50
	1.009	.058	.2321	03-37000	\$13.50
1-1/4	.875	.125	.4712	03-37100	\$32.80
	1.180	.035	.1601	03-37200	\$6.50
	1.152	.049	.2213	03-37210	\$10.50
1-3/8	1.134	.058	.2601	03-37300	\$13.50
	1.120	.065	.2907	03-37400	\$8.50
	1.010	.120	.510	03-37450*	\$12.95
1-1/2	1.259	.058	.2865	03-37500	\$9.50
	1.430	.035	.1928	03-37550	\$6.65
	1.402	.049	.2683	03-37610	\$30.50
1-5/8	1.384	.058	.3137	03-37710	\$44.50
	1.370	.065	.3519	03-37800	\$8.99
	1.260	.125	.635	03-37850	\$14.50
1-3/4	1.509	.058	.3409	03-37900	\$8.50
	1.680	.035	.2264	03-37910	\$12.95
	1.652	.049	.3142	03-37925	\$22.50
1-7/8	1.634	.058	.3703	03-37950	\$14.50
	1.584	.083	.5202	03-37975	\$25.50
	1.759	.058	.3954	03-38000	\$13.50
2	1.902	.049	.3601	03-38100	\$15.95
	1.884	.058	.4225	03-38200	\$26.90
	1.870	.065	.4743	03-38300	\$17.55
2-1/4	2.152	.049	.406	03-38307	\$15.90
	2.120	.065	.5328	03-38308	\$7.75
	1.959	.083	.824	03-38309	\$44.85
2-1/2	2.000	.125	.999	03-38310	\$32.95
	2.430	.035	.3254	03-38315	\$17.50
	2.402	.049	.444	03-38318	\$22.50
3	2.370	.065	.5803	03-38320	\$53.90
	2.930	.035	.3891	03-38330	\$28.50
4	2.870	.065	.7140	03-38340	\$36.50
	3.902	.049	.7153	03-38360	\$60.75

\* This item will be supplied as either .120 or .125.

## 3003-0 VERSATUBE

Soft aluminum tubing for instrument air and vacuum lines, fuel and oil lines, and primer lines.



\*Safety factor of 2  
20% discount for full 50' coils of Versatube

O.D. (In.)	Wall Thickness	Max. Working Pressure* (PSI)	Part No.	Price Per Ft.
1/8	.025	1820	03-40200	\$0.57
3/16	.028	880	03-40300	\$0.54
1/4	.032	795	03-40400	\$0.84
5/16	.035	630	03-40500	\$0.99
3/8	.035	520	03-40600	\$1.37
1/2	.035	390	03-40700	\$1.22
5/8	.035	305	03-40800	\$1.55

**IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER. PLEASE INDICATE AT TIME OF ORDER**

# ALUMINUM ROD – BAR – ANGLE



## ROUND ALUMINUM ROD 2024T3/2024T4

Dia. (In.)	Wt./Ft. (Lb.)	Part No.	Price/Ft
3/16	.033	03-41400	\$2.54
1/4	.059	03-41500	\$2.54
5/16	.092	03-41600	\$5.35
3/8	.132	03-41700	\$5.99
7/16	.1822	03-41750	\$5.50
1/2	.235	03-41800	\$22.50
5/8	.368	03-41900	\$9.50
3/4	.529	03-42000	\$10.50
7/8	.721	03-42100	\$19.50
1	.941	03-42200	\$15.95
1-1/8	1.205	03-42250	\$28.50
1-1/4	1.47	03-42300	\$22.80
1-3/8	1.800	03-42350	\$22.99
1-1/2	2.12	03-42400	\$43.95
2	3.76	03-42500	\$75.75
2-1/2	5.88	03-42600	\$80.75

No charge for cutting to 8 ft. or less for UPS shipment.  
Over 8 ft. shipped via truck. Special sizes available. Full length (12 foot) only. If ordering only T3 or T4, please call 877-477-7823



## ALUMINUM SQUARE & RECTANGLE BAR 2024T3/2024T4

Size (In.)	Wt./Ft. (Lb.)	Part No.	Price/Ft.
1/8 x 1	.150	03-42700	\$3.40
1/8 x 1-1/4	.187	03-42750	\$5.80
1/8 x 1-1/2	.225	03-42800	\$6.70
1/8 x 2	.300	03-42900	\$14.50
3/16 x 3/4	.169	03-43100	\$19.55
3/16 x 1-1/2	.3420	03-43250	\$9.50
1/4 x 1/2	.147	03-00104	\$10.50
1/4 x 3/4	.150	03-00199	\$6.80
1/4 x 1	.300	03-43400	\$6.65
1/4 x 1-1/4	.375	03-43500	\$13.50
1/4 x 1-1/2	.450	03-43600	\$9.90
1/4 x 2	.599	03-43700	\$14.75
1/4 x 3	.900	03-43800	\$17.95
1/4 x 4	1.99	03-43850	\$24.50
3/8 x 1	.4545	03-43875	\$18.65
3/8 x 1-1/4	.562	03-43900	\$11.70
3/8 x 1-1/2	.6818	03-43950	\$24.50
3/8 x 2	.674	03-44000	\$15.95
3/8 x 3	1.35	03-44100	\$23.55
3/8 x 6	2.7	03-44200	\$72.75
1/2 x 1/2	.3030	03-44250	\$8.99
1/2 x 5/8	.375	03-44300	\$14.85
1/2 x 1	.599	03-44400	\$14.60
1/2 x 1-1/4	.7575	03-44450	\$22.80
1/2 x 2	1.20	03-44500	\$28.50
1/2 x 2-1/2	1.50	03-44600	\$21.50
5/8 x 5/8	.468	03-44700	\$9.95
5/8 x 1	.7575	03-44850	\$17.50
3/4 x 3/4	.674	03-44900	\$11.80
3/4 x 1-1/2	1.35	03-45000	\$41.75
3/4 x 1-3/4	1.59	03-45550	\$26.95
3/4 x 2	1.80	03-45100	\$42.50
3/4 x 2-1/2	2.25	03-45200	\$45.50
1 x 1	1.20	03-45300	\$21.95
1 x 2	2.424	03-45450	\$62.99
1 x 2-1/2	3.030	03-45475	\$44.99
1/2 x 6	4.002	03-56000	\$61.75

Unlisted sizes of aluminum rod and bar available in full 12 ft. lengths.  
No charge for cutting to 8 ft. or less for UPS. Longer lengths shipped via truck.

If ordering only T3 or T4, please call 877-477-7823  
Ordering tubing/bar by the foot. Add a dash number after part no. to indicate length of tubing req.  
Example: 3 ft required add -3, 03-00100-3.



## ALUMINUM ANGLE

Extruded aluminum angle is produced by forcing a heated aluminum billet through a die of the proper shape by means of a hydraulic press. Our 90° aluminum extrusions have fillet radius as illustrated.

Type	Size (In.) Wt./Ft. "A" x "B" x "T"	Part No.	Wt. Per Ft. (Lb.)	Price Per Ft
2024T3	1/2 x 1/2 x 1/16	03-46800	.070	\$7.50
2024T3	5/8 x 5/8 x 1/16	03-46900	.095	\$6.85
2024T3	3/4 x 3/4 x 1/16	03-47000	.109	\$7.55
2024T3	7/8 x 7/8 x 1/8	03-47100	.238	\$13.50
2024T3	1 x 1 x 1/16	03-47200	.154	\$5.50
2024T3	1 x 1 x 1/8	03-47300	.282	\$9.50
2024T3	1 x 1-1/2 x 1/8	03-47400	.354	\$17.70
2024T3	1-1/2 x 1-1/2 x 1/16	03-47500	.229	\$10.50
2024T3	1-1/2 x 1-1/2 x 1/8	03-47600	.432	\$10.50
2024T3	2 x 2 x 1/8	03-47625	.581	\$14.85

Type	Size (In.) Wt./Ft. "A" x "B" x "T"	Part No.	Wt. Per Ft. (Lb.)	Price Per Ft
6061T6	3/4 x 3/4 x 1/16	03-00185	.106	\$2.96
6061T6	3/4 x 3/4 x 1/8	03-47900	.200	\$2.71
6061T6	1 x 1 x 1/16	03-00187	.150	\$5.35
6061T6	1 x 1 x 1/8	03-48000	.270	\$5.35
6061T6	1-1/4 x 1-1/4 x 1/8	03-00189	.350	\$9.90
6061T6	1-1/2 x 1-1/4 x 1/8	03-48075	.390	\$28.60
6061T6	1-1/2 x 1-1/2 x 1/8	03-48100	.430	\$4.50
6061T6	1-1/2 x 1-1/2 x 3/16	03-48200	.625	\$7.50
6061T6	1-1/2 x 1-1/2 x 1/4	03-48250	.831	\$8.50
6061T6	1-1/2 x 2 x 1/8	03-48300	.506	\$9.50
6061T6	1-3/4 x 1-3/4 x 1/8	03-48350	.490	\$9.90
6061T6	2 x 2 x 1/8	03-48400	.470	\$6.80
6061T6	2 x 2 x 3/16	03-48450	.850	\$16.50
6061T6	2 x 2 x 1/4	03-48500	1.110	\$14.50
6061T6	2 x 3 x 1/4	03-48550	1.400	\$29.95
6061T6	2 x 2-1/2 x 1/4	03-48600	1.250	\$14.50
6061T6	2-1/2 x 2-1/2 x 3/16	03-00007	.970	\$16.55
6061T6	2-1/2 x 2-1/2 x 1/8	03-48650	.720	\$9.90
6061T6	4 x 4 x 1/4	03-48680	2.28	\$26.60

Standard lengths: 2024-12' and 20', 6061-25', 6063-16' (no fillet). No charge for cutting to 8 ft. or less for UPS. Many unlisted sizes available. Request quotation.



## ALUMINUM ROUND, SQUARE AND RECTANGLE BARS, 6061T6

Size (In.)	Wt./Ft. (Lb.)	Part No.	Price/Ft.
3/16 Dia. Round	.032	03-45500	\$2.55
1/4	.058	03-45600	\$0.92
5/16	.090	03-45700	\$2.34
3/8	.130	03-45800	\$3.35
1/2	.231	03-45900	\$3.45
5/8	.359	03-45920	\$3.80
3/4	.519	03-46000	\$9.50
7/8	.787	03-46010	\$20.80
1	.923	03-46100	\$12.95
1-1/4	1.436	03-45940	\$9.50
1-1/2	2.068	03-45960	\$26.90
1-3/8	1.734	03-46110	\$27.50
1-5/8	2.44	03-46200	\$36.50
1/4 x 1 Rect.	.294	03-46300	\$10.50
3/4 x 3/4 Sq.	.660	03-46400	\$8.50
3/16" x 1-1/4"	.275	03-46250	\$4.85
1/4" x 1-1/2"	.441	03-46350	\$16.70
1/4" x 2"	.675	03-00005	\$8.99
1/4" x 3"	.881	03-46360	\$14.50
1/2" x 3/4"	.441	03-46370	\$8.50
1/2" x 1"	.587	03-46375	\$6.90
1/2" x 1-1/4"	.734	03-46380	\$12.95
1/2" x 2"	1.170	03-46390	\$44.95
1" x 1"	1.170	03-46450	\$13.60
1" x 1-1/4"	1.270	03-00006	\$21.50
1" x 2-1/2"	1.790	03-00142	\$44.85

IF MFG TEST REPORTS ARE REQUIRED THERE IS A \$20.70 CHARGE PER ORDER. PLEASE INDICATE AT TIME OF ORDER

# ALUMINUM HINGE – STRINGERS

## PIANO HINGE

**MS20257P** (supersedes AN257) hinge consists of two aluminum half hinges which mate and are held together by a hinge pin. Anodized finish. MS20257C is similar to MS20257P except made in stainless steel.



**MS20001P** aluminum hinge is extruded. The closed hinge loops cannot be pulled apart. Furnished with hinge pin. Anodized finish.

Part No.*	Open Width	Thickness	Price/Length	
			3 Ft.*	6 Ft.*
MS20257P1	3/4"	.032"	\$10.70	\$21.50
MS20257P2	1-1/16"	.040"	\$12.50	\$24.65
MS20257P3	1-1/4"	.040"	\$13.50	\$26.95
MS20257P4	1-1/2"	.040"	\$13.50	\$25.55
MS20257P5	2"	.051"	\$14.50	\$28.50
MS20001P3	1-1/4"	.056"	\$57.80	\$112.85
MS20001P4	1-1/2"	.056"	\$51.75	\$103.75
MS20001P5	1-3/4"	.056"	\$53.75	\$105.95
MS20001P6	2"	.056"	\$66.95	\$133.75
MS20257C1	3/4"	.031"	\$24.50	\$48.99
MS20257C2	1-1/16"	.037"	\$26.95	\$53.75
MS20257C3	1-1/4"	.050"	\$16.50	\$32.50
MS20257C4	1-1/2"	.062"	\$25.90	\$51.75
MS20257C5	2"	.062"	\$29.70	\$58.75

\* Add "-3" to part number for 3 ft. pc. and "-6" to part number for 6 ft. pc. Example: MS20001P6-3 is 3 ft. pc. of MS20001P6 hinge.

**HINGE PIN ONLY** – Stainless Steel

089" Dia. x 6" ..... P/N 03-49000 ..... **NLA**

## BARGAIN BAG OF ALUMINUM TUBING

Approximately 20 ft. Assorted sizes of 2024 and 6061 aluminum tubing, angle, rod, and bar  
P/N 03-40100 ..... **\$22.70**

## 6063T52 U CHANNEL

3/4"x 3/4"x1/8" ..... P/N 03-38950 ..... **\$6.50/ft.**  
1"x1"x1/8" ..... P/N 03-39050 ..... **\$4.65/ft.**  
1-1/4"x1-1/4"x1/8" ..... P/N 03-39150 ..... **\$7.50/ft.**

## TRAILING EDGE

Fabricated of .025 aluminum 3003H14 to size illustrated. Wt. 12oz. per 10ft. length. Shipped via truck. **No charge for cutting to 8 ft. or less for UPS shipment.**

10 Ft. Length..... P/N 03-48900 ..... **\$33.85**

**Less 20% on 12 or more lengths. Please add \$2.00 carton charge for trailing edge - this box insures safe UPS shipment.**

## RECTANGULAR ALUMINUM STRINGERS

Rectangular stringers, 5/8" x 5/16" x .032" 3003H14 aluminum. Wt. 11 oz./12ft. length. Shipped via truck. **No charge for cutting to 8ft. or less for UPS shipment.**

12 Ft. Length..... P/N 03-48800 ..... **\$19.50**

## "HAT" SECTION ALUMINUM STRINGERS

Fabricated from .020 2024T3 aluminum. Wt. 5 oz. per 8-ft. length. May be spliced to form longer stringers.

8-Ft. Length ..... P/N 03-46500 ..... **\$19.50**  
**Less 10% on orders for 12 or more.**

## 2024T3511 2 X 1-3/4 T ALUMINUM

2024T3511 2" X 1-3/4" T extruded aluminum. Price per foot. P/N 03-00093 ..... **\$108.75**

## WELDING ROD FOR ALUMINUM



**ER4043** – A versatile alloy well suited for welding 6061T-6, 5005, and 6063. Extremely ductile.

1/16" dia. .... P/N 03-27520. **\$26.50/lb.**  
3/32" dia. .... P/N 03-27525. **\$22.80/lb.**

**ER5356** – Combination of strength and ductility for welding 5083, 5086, and 7000 series. Deposit can be anodized after welding.

1/16" dia. .... P/N 03-27530. **\$22.80/lb.**

**UTP A-65** – A multi alloy wire for a wide range of base materials including stainless steel, low alloy high strength steel and especially outstanding for dissimilar metals with over 120,000 psi tensile strength and 25% elongation. Machinable.

1/16" dia. .... P/N 03-27555 ..... **\$76.95/lb.**

## BRAZING ALLOYS

**UTP 1M** – High strength, machinable torch rod for steel, brass, bronze and other copper alloys. Easy to apply, high strength, and versatile all purpose brazing rod.

1/8" dia. .... P/N 03-27570 ..... **\$29.50/lb.**

## MAINTENANCE

**UTP 612** – An all position mild steel coated electrode for arc welding. Operates on AC or DC current and can be welded by even the most inexperienced welder. 72,000 psi tensile strength, moisture resistant and conveniently packaged in 10 lb containers.

1/16" dia. .... P/N 03-27580 ..... **\$17.75/lb.**

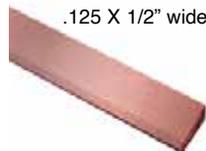
## COPPER TUBING



O.D. (In.)	Wall Thickness	Part No.	Price/Ft.
1/8	.030	03-40900	<b>\$3.35</b>
1/4	.030	03-41000	<b>\$3.80</b>
5/16	.032	03-41100	<b>\$4.35</b>
3/8	.032	03-41200	<b>\$10.60</b>
1/2	.032	03-41250	<b>\$10.50</b>

Seamless copper tubing for primer, fuel and oil pressure lines. **20% discount for full soft coils of 50 ft. of Copper Tubing.**

## COPPER BUS BAR



Length (ft.)	Part Number	Price
1	11-40890-1	<b>\$5.35</b>
2	11-40890-2	<b>\$10.50</b>
3	11-40890-3	<b>\$15.75</b>
4	11-40890-4	<b>\$20.99</b>
5	11-40890-5	<b>\$26.50</b>
6	11-40890-6	<b>\$31.50</b>

## LEAD SHEET

Lead sheet per specification QQ-L-201, Grade B. 1/8" thick. Wt. 8 lbs./sq.ft.

P/N 03-31500 ..... **\$123.90/ft.**

Half Sheet (24" x 36", 48 Lbs.)

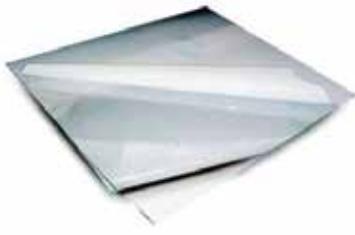
P/N 03-31520 ..... **\$686.00**

Full Sheet (36" x 48", 96 Lbs.)

P/N 03-31540 ..... **\$1,325.00**

# ACRYLIC – LEXAN – NYLON

## ACRYLIC SHEET



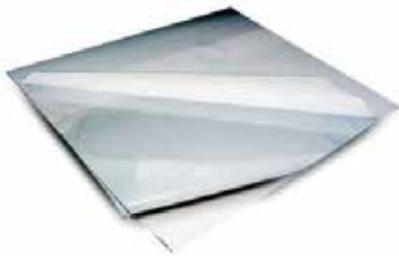
American made acrylic sheet Grade C to Specification LP-391 is unshrunk. When heated to forming temperature of 220-250°F, it will shrink about 2.2% in length and width and will increase about 4% in thickness. When heated to a pliable state it can be drilled, sawed and machined. It has excellent resistance to weathering. It is less than half as heavy as glass and has good impact resistance. .060" or .080" thickness is generally used for side windows and .118" for windshields. Both sides are paper covered for protection. Sheet size: 48"x96". Sold in 2'x2' increments only. Order by part number (see table)

Size	Thickness Inch	Weight Lb./Sq.Ft.	Part No.***	Price/Sq. Ft.
2x2	.060 Clear	.37	03-49802	\$13.50
2x2	.080 Clear	.49	03-49902	\$20.50
2x2	.118 Clear	.62	03-50002	\$23.50
2x2	.118 Tinted*	.77	03-50102	\$26.50
2x2	.118 Tinted**	.77	03-50202	\$27.50

\* Smoke tint

\*\* #2111 Green tint

\*\*\* Order by basic part number and add last two digits according to dimensions of piece, as follows: 2'x4' (8 Sq.Ft.) add "04"; 4'x4' (16 Sq.Ft.), add "08"; 4'x8' (32 Sq.Ft.), add "10". Example: 2'x4' .080 Clear is P/N 03-49904.



## LEXAN

American made Kirex polycarbonate sheet (an equivalent to G.E. Lexan) is a very strong plastic which is guaranteed by manufacturer against breakage when used as a window for a 3 year period. It will scratch like Plexiglas, but will not break. Clear, masked both sides. Sheet size: 48"x96". Sold in 2'x2' increments only. Order by part number (see table)

Size	Thickness Inch	Weight Lb./Sq.Ft.	Part No.***	Price/Sq. Ft.
2x2	.060	.38	03-50302	\$17.50
2x2	.080	.50	03-50402	\$18.85
2x2	.093	.59	03-50502	\$22.80
2x2	0.118	.78	03-50602	\$24.60

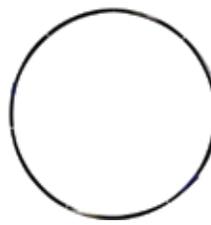
\* Order by basic part number and add last two digits according to dimensions of piece, as follows: 2'x4' (8 Sq.Ft.) add "04"; 4'x4' (16 Sq.Ft.), add "08"; 4'x8' (32 Sq.Ft.), add "10". Example: 4'x4' of .093 is P/N 03-50508.



## CLEAR CELLULOSE ACETATE SHEET

May be used to make inspection rings, grommets and shapes which will adhere to fabric with dope or fabric cement. Sheet size: 20" x 50". Thickness: .030". P/N 03-50700..... \$109.75/Sheet

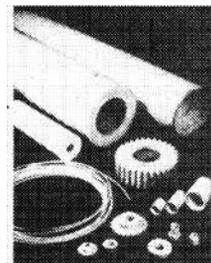
## GRAPHLITE CARBON FIBER ROD



Prepreg tape has an inherent waviness which can reduce the strength and stiffness of a laminate. Graphlite rod eliminates fiber waviness and unlike tape, it can be placed along any curved surface and retain fiber alignment. Graphlite can be used in layers to form building blocks for stiffeners, spar caps, longerons and other axially loaded parts. Components made with Graphlite offer tension strength on the lower wing surface and compression strength on the upper surface that are almost equal. In addition,

a single layer of rods is as thick as 10 layers of tape, meaning fewer passes and less effort. Graphlite rods increase compression strength, reduce fabrication costs by 50%, can be laid on compound curves, and require no special storage. Available in two rod types: standard module (SM) which is 33-34 MSI and intermediate module which is 42 msi. Sold by the roll. Typical light aircraft requires minimum of 1000 ft. Graphlite rod.

Rod Type	Rod Diameter	Tensile Strength	Part Number	Price per roll
IM	0.067	503	03-50706	\$129.75 /100 ft.
SM	0.125	503	03-50707	\$35.50 /12 ft.



## NYLON

Nylon, a polyimide resin, is a light yet tough thermoplastic material. Its density is approximately .041 lb./cu.in. It is a tough, resilient material with a low coefficient of friction. Abrasion tests show that Nylon loses less material than do many metals, other plastics, and hard rubber. It can deform under load, then return to its original shape. Nylon retains its impact strength over a wide range of temperatures (-60° to 400°F). It has good resistance to most chemicals. It can be easily machined on most standard metal working machines, power hacksaws, band saws, or circular saws. It is desirable to use a saw with a coarse tooth blade.

## NYLON PLATE



Thickness (Inch) (Lbs.)	Wt. per Sq. Ft.	Part Number	Price/ Sq. Ft.*
1/16	.39	03-51000	\$13.50
1/8	.77	03-51100	\$33.85
1/4	1.54	03-51200	\$61.75
1/2	3.07	03-51300	\$93.75
3/4	4.61	03-51400	\$99.75
1	6.15	03-51500	\$127.99

\* SOLD BY THE SQUARE FOOT (12" X 12")

Smaller pieces are available.

Order as follows:

6" x 6" = 0.25

6" x 12" = 0.50

12" x 12" = 1

12" x 24" = 2

12" x 36" = 3

## NYLON ROUND ROD



Diameter (In.)	Part No.	Price/ Ft.
1/8	03-51600	\$0.64
1/4	03-51700	\$1.59
1/2	03-51800	\$2.70
3/4	03-51900	\$5.35
1	03-52000	\$8.50
1-1/4	03-52100	\$13.50
1-1/2	03-52200	\$16.50
2	03-52300	\$28.50

Less 10% for 4 ft. lengths.

Less 20% for full 8 ft. lengths. Furnish cutting instructions for UPS shipment.

ME

# PHENOLIC – ACRYLIC – DELRIN

## HIGH PRESSURE LAMINATED PHENOLIC

Commonly called "Micarta", a trademark of Westinghouse. Laminated sheets, tube and rods are produced in many grades, sizes and colors. These laminates combine a base material - canvas, linen, paper, glass cloth or Nylon cloth, with a resin- phenolic, melamine, epoxy or silicone, under high heat and pressure to produce a new material with specific characteristics. These characteristics vary with the grade and its use.



### GRADE L (LINEN BASE) PHENOLIC SHEET

Used for precision machining and high strength applications. Sheet Size: 36" x 48". Sold in 6" x 6", 6" x 12", 12" x 12", etc. pieces only.

Thickness (In.)	Wt. /Sq. Ft(Lbs.)	Part No.	Price. Per Sq. Ft.
1/16	.422	03-52400	\$6.65
1/8	.844	03-52500	\$12.50
3/16	1.349	03-00111	\$25.55
1/4	1.853	03-52600	\$25.70
3/8	2.772	03-52700	\$34.50
1/2	3.685	03-52800	\$60.75
3/4	5.495	03-52900	\$74.75

### GRADE L (LINEN BASE) PHENOLIC ROD



Used to provide high-strength close-tolerance bolt holes in wooden spars. Cut rod to spar thickness, drill and ream for proper bolt fit. Drill hole in spar for slip fit of rod, then bond in spar with epoxy cement. Produced in 4 ft. lengths.

5/8" dia. .... P/N 03-53100 ..... \$11.80 /ft.  
 1" dia. .... P/N 03-53200 ..... \$14.80 /ft.

### GRADE XXX (PAPER BASE) PHENOLIC TUBING



EXTRUDED

O.D. (In.)	I.D. (In.)	Wall (In.)	Part No.	Price Per Ft.
3/8	1/4	1/16	03-53300	\$26.99
5/8	1/2	1/16	03-53500	\$27.55
3/4	5/8	1/16	03-53600	\$96.75
7/8	3/4	1/16	03-53700	\$100.75

### ACRYLIC TUBING GLASS EPOXY ROD



O.D. (In.)	I.D. (In.)	Wall (In.)	Part No.	Price Per Ft.
3/8	1/8	.125	03-53800	\$2.14
1/2	1/4	.125	03-53900	\$22.80
5/8	3/8	.125	03-54000	\$6.60

G-10 Glass Epoxy Rod - 5/8" Dia.  
 P/N 03-50900 ..... \$27.55 Ft.  
 Other sizes available in 4-ft. lengths.



### CLEAR PVC PIPE

Clear, rigid Schedule 40 PVC pipe for sight gauges. Used in Quickie as fuel level gauge. Excellent resistance to gasoline. Nominal 1/4" pipe size (0.54" O.D., 0.33" I.D.) ..... P/N 03-54100 ..... \$3.60 Ft.

### WELD-ON ACRYLIC CEMENT

Fast Set - Clear, water thin solvent cement.  
 P/N 03-00107 ..... \$33.85



### UNMASK

For easy removal of stubborn masking paper from plastic sheets. This worksaver also removes adhesive residue. Quantity Discount - 15% on 10 units on this page  
 Quart ..... P/N 03-55100 ..... \$17.50  
 Gallon ..... P/N 03-55105 ..... \$47.65



## DELRIN® ROD



Delrin® is a thermoplastic acetal resin. The most important attributes of Delrin® are high mechanical strength and rigidity, fatigue endurance and high resistance to moisture, gasoline and solvents.

This product contains Delrin® resin. Delrin® is a registered trademark of E. I. du Pont de Nemours & Co. Color: Natural. Sold by the foot.

Diameter	Part No.	Price / Ft.	Diameter	Part No.	Price/Ft.
1/8"	02-52018	\$1.32	3/4"	02-52034	\$6.50
3/16"	02-52316	\$1.18	7/8"	02-52078	\$7.50
1/4"	02-52014	\$1.04	1"	02-52001	\$10.50
5/16"	02-52516	\$3.60	1-1/8"	02-52118	\$11.90
3/8"	02-52038	\$2.21	1-1/4"	02-52114	\$17.70
7/16"	02-52716	\$1.52	1-3/8"	02-52138	\$13.50
1/2"	02-52012	\$2.28	1-1/2"	02-52112	\$14.70
9/16"	02-52916	\$4.85	1-3/4"	02-52134	\$29.75
5/8"	02-52058	\$3.40	2"	02-52002	\$32.60

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### ACRYLIC CUTTING TOOL



This knife features a retractable blade and is used for the "score-and-snap" method of cutting acrylic. Score-and-snap works well for making straight cuts in thinner sheets (1/8" and thinner). It is not recommend this method for sheets thicker than 1/8" due to the difficulty of getting a clean break; a saw will yield better results for heavy sheets. Complete with instructions.

P/N 03-54200 ..... \$6.90

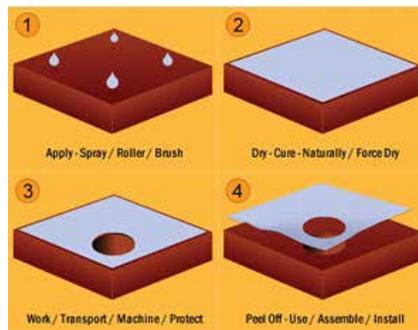
### ACRYLIC DRILL BITS



Specially ground point, 60° included tip angle, 0° rake angle, shoulder relieved, for drilling Acrylic to prevent fractures, chipping or cracking. With instructions.

Drill Size	Part No.	Price Ea.	Drill Size	Part No.	Price Ea.
1/8"	12-05489	\$7.50	5/16"	12-05493	\$15.50
5/32"	12-05490	\$8.50	3/8"	12-05494	\$22.80
3/16"	12-05491	\$8.99	7/16"	12-05495	\$25.95
1/4"	12-05492	\$12.50	1/2"	12-05496	\$27.50

### DISCOAT 4220 PLEXIGLASS PROTECTOR



General Chemical's Discoat 4220 is a CLEAR water resistant; water based peelable temporary protective coating for Aircraft windshields & windows which provides a long lasting durable protective layer that protects from scratches and oxidation. Used for protecting canopies and windshields during construction. Discoat 4220 air dries quickly, leaving a tough, yet flexible coating that is easily removed and requires no other additional step. 4220 represents the ultimate in water-based removable coating technology. It is stabilized against brittleness and is not softened or penetrated by most water-based compounds.

4220 is impregnated with transparent blue dye for easy visual inspection as well as identification and is non-staining and stable to 100 degrees Celsius. Approximate coverage: 35 sq. ft. per quart. May be applied by spray or brush. Minimum of 4 coats recommended for best results.  
 Quart ..... P/N 03-00158 ..... \$36.60  
 Gallon ..... P/N 03-00159 ..... \$137.95