

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	---
1.180	.500	.035	7/8"	7/16"	.3140	03-11400	---
1.30	.600	.049	1	5/8	0.498	03-00233	---
1.349	.571	.049	1"	5/8"	.4977	03-11500	---
1.645	.740	.049	1-1/4	3/4	0.629	03-00234	---
1.685	.714	.049	1-1/4"	3/4"	.6285	03-11600	---
1.990	.870	.049	1-1/2	1	0.759	03-00235	---
2.023	.857	.049	1-1/2"	1"	.7593	03-11700	---
2.360	.960	.049	1-3/4	1-1/8	0.890	03-00236	---
2.360	1.000	.049	1-3/4"	1-1/8"	.8902	03-11800	---
2.665	1.140	.065	2	1-1/2	1.343	03-00237	---
2.697	1.143	.065	2"	1-1/4"	1.021	03-00192	---
3.372	1.429	.049	2-1/2"	1-1/2"	1.283	03-12000	---

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	---
1/2 x 1	.065	.6055	03-12350	---
5/8 x 5/8	.035	.2808	03-12400	---
	.049	.4234	03-12500	---
	.065	.388	03-12600	---
3/4 x 3/4	.035	.3403	03-12700	---
	.049	.4671	03-12800	---
	.065	.6055	03-13000	---
	.065	.7160	03-13300	---
1 x 1	.035	.4593	03-13400	---
	.049	.6337	03-13500	---
	.065	.8265	03-13700	---
3/4 x 1-1/2	.049	.9057	03-13900	---
1 x 1-3/4	.065	1.158	03-13950	---

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. MLL-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 Per Ft.
1	2.67	03-26700	---
1-1/4	4.173	03-26850	---
1-3/8	5.049	03-26900	---
2	11.20	03-26950	---

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	---
321 Welded	1-1/2"	.035"	03-16300	---
321 Welded	1- 3/4"	.035"	03-16400	---
321 Welded	2"	.035"	03-16500	---
304 Seamless	1/8	.020"	03-00148	---
304 Seamless	1/8"	.035"	03-16010	---
304 Seamless	3/16"	.035"	03-16020	---
304 Seamless	1/4"	.035"	03-16030	---
304 Seamless	5/16"	.035"	03-16040	---
304 Seamless	3/8"	.035"	03-16045	---
304 Seamless	1/2"	.035"	03-16050	---
304 Seamless	5/8"	.035"	03-16060	---
321 Seamless	1-1/4"	.028"	03-16540	---
321 Seamless	1-1/2"	.035"	03-16560	---

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 Per Ft.
3/8"	1/4"	.065"	03-16700	---
1/2"	3/8"	.065"	03-16900	---

ROUND BRASS SEAMLESS TUBING

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



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

Dia (In.)	Wt./Ft.	Part No.	Price Per Ft.
1/8	.042	03-20100	---
3/16	.092	03-20200	---
1/4	.167	03-20300	---
5/16	.261	03-20400	---
3/8	.376	03-20500	---
7/16	.511	03-20600	---
1/2	.668	03-20700	---
9/16	.845	03-20800	---
5/8	1.043	03-20900	---
3/4	1.502	03-21000	---
7/8	2.044	03-21100	---
1	2.670	03-21200	---
1-1/4	4.173	03-21300	---
1-3/8	5.049	03-21400	---
1-1/2	6.008	03-21500	---
1-3/4	8.178	03-21600	---

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/ft.



3/8" PIPER CHANNEL

Available in mild steel. 0.020" thick. 6-ft. lengthP/N 05-04564

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

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	---	03-21850	---	03-21900	---	03-22000	---	03-22100	---	03-22150	---	2.30
.032	03-22510	---	03-22515	---	03-22520	---	03-22525	---	03-22530	---	03-22535	---	---
.040	03-22600	---	03-22650	---	03-22700	---	03-22800	---	03-22900	---	03-22950	---	3.75
.050	03-23000	---	03-23050	---	03-23100	---	03-23200	---	03-23300	---	03-23350	---	4.80
.063	03-23400	---	03-23450	---	03-23500	---	03-23600	---	03-23700	---	03-23750	---	5.85
.071	03-23800	---	03-23850	---	03-23900	---	03-24000	---	03-24100	---	03-24150	---	6.55
.080	03-24200	---	03-24250	---	03-24300	---	03-24400	---	03-24500	---	03-24550	---	7.15
.090	03-24600	---	03-55500	---	03-24700	---	03-24800	---	03-24900	---	03-24950	---	8.15
.100	03-25000	---	---	---	03-25100	---	03-25200	---	03-25300	---	03-25350	---	10.45
.125	03-55300	---	03-25370	---	03-25400	---	03-25500	---	03-25600	---	---	---	11.25
.190	---	---	03-25660	---	03-25700	---	03-25750	---	03-26025	---	---	---	17.50
.250	---	---	03-25850	---	03-25900	---	03-25950	---	03-26050	---	03-00106	---	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	---
.025	1" x 72"	03-18100-6	---
.032	5/8" x 72"	03-18110-6	---
.032	1" x 72"	03-18120-6	---
.032	2" x 72"	03-18130-6	---
.032	3" x 72"	03-18140-6	---
.040	5/8" x 72"	03-18200-6	---
.040	1" x 72"	03-18300-6	---
.040	2" x 72"	03-18310-6	---
.040	3" x 72"	03-18320-6	---
.050	1" x 72"	03-18400-6	---
.050	2" x 72"	03-18410-6	---
.050	3" x 72"	03-18420-6	---
.063	5/8" x 72"	03-18500-6	---
.063	3/4" x 72"	03-18600-6	---
.063	1" x 72"	03-18700-6	---
.063	1-1/4" x 72"	03-18800-6	---
.063	1-1/2" x 72"	03-18900-6	---
.063	2" x 72"	03-19000-6	---
.063	3" x 72"	03-19100-6	---
.071	5/8" x 72"	03-19180-6	---
.071	1" x 72"	03-19200-6	---
.071	2" x 72"	03-19210-6	---
.071	3" x 72"	03-19220-6	---
.080	5/8" x 72"	03-19280-6	---
.080	1" x 72"	03-19290-6	---
.080	2" x 72"	03-19300-6	---
.090	1" x 72"	03-19400-6	---
.090	1-1/2" x 72"	03-19500-6	---
.090	2" x 72"	03-19520-6	---
.090	3" x 72"	03-19600-6	---
.100	1" x 72"	03-19610-6	---
.100	1-1/2" x 72"	03-19620-6	---
.100	3" x 72"	03-19630-6	---
.125	1" x 72"	03-19700-6	---
.125	1-1/2" x 72"	03-19800-6	---
.125	2" x 72"	03-19820-6	---
.125	3" x 72"	03-19900-6	---
.250	1-1/4" x 18"	03-20000	---

* 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	---
.040	12" x 12"	03-56304	---
.040	12" x 20"	03-56316	---
.040	10" x 26"	03-56312	---
.040	12" x 24"	03-56306	---
.040	14" x 30"	03-56308	---
.040	18" x 30"	03-56310	---
.040	24" x 24"	03-56314	---
.050	4" x 24"	03-56320	---
.050	12" x 12"	03-56318	---
.050	8" x 24"	03-56322	---
.050	12" x 24"	03-56324	---
.063	10" x 10"	03-56326	---
.063	10" x 14"	03-56332	---
.063	12" x 12"	03-56328	---
.063	12" x 24"	03-56330	---
.071	4" x 4"	03-56334	---
.071	12" x 12"	03-56336	---
.071	12" x 24"	03-56338	---
.080	2" x 10"	03-56354	---
.080	12" x 24"	03-56340	---
.090	2" x 10"	03-56344	---
.090	6" x 8"	03-56342	---
.090	12" x 24"	03-56346	---
.125	10" x 24"	03-56348	---
.125	12" x 24"	03-56350	---

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

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	---
1/4 x 2	1.702	03-26150	---
3/8 x 2	2.550	03-26200	---
1/2 x 3	5.100	03-26300	---
1/2 x 4	6.800	03-26400	---

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/lb.
1/8" Dia..... P/N 03-27200/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/lb.
1/8" Dia..... P/N 03-27500/lb

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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.

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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 ³	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 ²	-	-	-	-	C	C	B	D	D	C	A	58-62	-	38	-	12-15	4-12
	Alclad 2024	O ⁵	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
	6061	T42 ²	-	-	-	-	A	D	B	D	D	C	A	55-61	-	34-38	-	10-15	4-12
		O ³¹	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	-
	Bare 7075	T651	-	-	-	X	A	C	C	A	A	A	A	40-42	-	35	-	-	6-10
		T42 ²	-	-	-	-	A	C	C	A	A	A	A	30	-	14	-	10-16	16-18
		O ¹	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	-
	Alclad 7075	T651	-	-	-	X	C	D	B	D	D	D	B	67-77	-	53-66	-	-	2-8
		O ¹	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 (0 temper) material shall, upon heat treatment, be capable of developing the mechanical properties applicable to T 42 temper material.
- 4 - Annealed (0 temper) material shall, upon heat treatment and aging, be capable of developing the mechanical properties applicable to T 67 temper material.

APPROXIMATE MINIMUM RADIUS FOR 90° COLD BEND

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

Alloy	Temper	RADIUS 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	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t
Alclad 2014	-H18	O-1t	1/2-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	2t-4t	3t-5t	3t-6t
	-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
2024	-T6	2t-4t	3t-5t	3t-5t	4t-6t	5t-7t	6t-10t	7t-10t	8t-11t
	-O ²	O	O	O	O	O-1t	O-1t	1-1/2t-3t	3t-5t
	-T3 ²³	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-6t	5t-7t	6t-8t	6t-9t
	-36 ²	2t-4t	3t-5t	4t-6t	5t-7t	5t-7t	6t-10t	7t-10t	8t-11t
3003	-T4 ²	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
	-O	O	O	O	O	O	O	O	1t-2t
5052	-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
6061	-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-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	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
7075	-H38	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	3t-5t	4t-6t	4t-7t	5t-8t
	-O	O	O	O	O	O-1t	O-1t	1/2t-2t	1t-1-1/2t
	-T4 ²	O-1t	O-1t	1/2t-1-1/2t	1t-2t	1-1/2t-3t	2t-4t	2-1/2t-4t	3t-5t
	-T6 ²	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 ²	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 ROD – BAR – ANGLE



ROUND ALUMINUM ROD 2024T3/2024T4

Dia. (In.)	Wt./Ft. (Lb.)	Part No.	Price/Ft.
3/16	.033	03-41400	---
1/4	.059	03-41500	---
5/16	.092	03-41600	---
3/8	.132	03-41700	---
7/16	.1822	03-41750	---
1/2	.235	03-41800	---
5/8	.368	03-41900	---
3/4	.529	03-42000	---
7/8	.721	03-42100	---
1	.941	03-42200	---
1-1/8	1.205	03-42250	---
1-1/4	1.47	03-42300	---
1-3/8	1.800	03-42350	---
1-1/2	2.12	03-42400	---
2	3.76	03-42500	---
2-1/2	5.88	03-42600	---

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	---
1/8 x 1-1/2	.225	03-42800	---
1/8 x 2	.300	03-42900	---
3/16 x 3/4	.169	03-43100	---
1/4 x 1/2	.147	03-00104	---
1/4 x 3/4	.150	03-00199	---
1/4 x 1	.300	03-43400	---
1/4 x 1-1/4	.375	03-43500	---
1/4 x 1-1/2	.450	03-43600	---
1/4 x 2	.599	03-43700	---
1/4 x 3	.900	03-43800	---
1/4 x 4	1.99	03-43850	---
3/8 x 1	4.545	03-43875	---
3/8 x 1-1/4	.562	03-43900	---
3/8 x 1-1/2	.6818	03-43950	---
3/8 x 2	.674	03-44000	---
3/8 x 3	1.35	03-44100	---
3/8 x 6	2.7	03-44200	---
1/2 x 1/2	.3030	03-44250	---
1/2 x 5/8	.375	03-44300	---
1/2 x 1	.599	03-44400	---
1/2 x 1-1/4	.7575	03-44450	---
1/2 x 2	1.20	03-44500	---
1/2 x 2-1/2	1.50	03-44600	---
5/8 x 5/8	.468	03-44700	---
5/8 x 1	.7575	03-44850	---
3/4 x 3/4	.674	03-44900	---
3/4 x 1-1/2	1.35	03-45000	---
3/4 x 1-3/4	1.59	03-45550	---
3/4 x 2	1.80	03-45100	---
3/4 x 2-1/2	2.25	03-45200	---
1 x 1	1.20	03-45300	---
1 x 2	2.424	03-45450	---
1 x 2-1/2	3.030	03-45475	---
1/2 x 6	4.002	03-56000	---

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.) "A" x "B" x "T"	Wt./Ft. (Lb.)	Part No.	Wt. Per Ft. (Lb.)	Price/Ft.
2024T3	1/2 x 1/2 x 1/16	03-46800	.070	---	
2024T3	5/8 x 5/8 x 1/16	03-46900	.095	---	
2024T3	3/4 x 3/4 x 1/16	03-47000	.109	---	
2024T3	7/8 x 7/8 x 1/8	03-47100	.238	---	
2024T3	1 x 1 x 1/16	03-47200	.154	---	
2024T3	1 x 1 x 1/8	03-47300	.282	---	
2024T3	1 x 1-1/2 x 1/8	03-47400	.354	---	
2024T3	1-1/2 x 1-1/2 x 1/16	03-47500	.229	---	
2024T3	1-1/2 x 1-1/2 x 1/8	03-47600	.432	---	
2024T3	2 x 2 x 1/8	03-47625	.581	---	

Type	Size (In.) "A" x "B" x "T"	Wt./Ft. (Lb.)	Part No.	Wt. Per Ft. (Lb.)	Price/Ft.
6061T6	3/4 x 3/4 x 1/16	03-00185	.106	---	
6061T6	3/4 x 3/4 x 1/8	03-47900	.200	---	
6061T6	1 x 1 x 1/16	03-00187	.150	---	
6061T6	1 x 1 x 1/8	03-48000	.270	---	
6061T6	1-1/4 x 1-1/4 x 1/8	03-00189	.350	---	
6061T6	1-1/2 x 1-1/4 x 1/8	03-48075	.390	---	
6061T6	1-1/2 x 1-1/2 x 1/8	03-48100	.430	---	
6061T6	1-1/2 x 1-1/2 x 3/16	03-48200	.625	---	
6061T6	1-1/2 x 1-1/2 x 1/4	03-48250	.831	---	
6061T6	1-1/2 x 2 x 1/8	03-48300	.506	---	
6061T6	1-3/4 x 1-3/4 x 1/8	03-48350	.490	---	
6061T6	2 x 2 x 1/8	03-48400	.470	---	
6061T6	2 x 2 x 3/16	03-48450	.850	---	
6061T6	2 x 2 x 1/4	03-48500	1.110	---	
6061T6	2 x 3 x 1/4	03-48550	1.400	---	
6061T6	2 x 2-1/2 x 1/4	03-48600	1.250	---	
6061T6	2-1/2 x 2-1/2 x 3/16	03-00007	.970	---	
6061T6	2-1/2 x 2-1/2 x 1/8	03-48650	.720	---	
6061T6	4 x 4 x 1/4	03-48680	2.28	---	

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	---
1/4	.058	03-45600	---
5/16	.090	03-45700	---
3/8	.130	03-45800	---
1/2	.231	03-45900	---
5/8	.359	03-45920	---
3/4	.519	03-46000	---
7/8	.787	03-46010	---
1	.923	03-46100	---
1-1/4	1.436	03-45940	---
1-1/2	2.068	03-45960	---
1-3/8	1.734	03-46110	---
1-5/8	2.44	03-46200	---
1/4 x 1 Rect.	.294	03-46300	---
3/4 x 3/4 Sq.	.660	03-46400	---
3/16" x 1-1/4"	.275	03-46250	---
1/4" x 1-1/2"	.441	03-46350	---
1/4" x 2"	.675	03-00005	---
1/4" x 3"	.881	03-46360	---
1/2" x 3/4"	.441	03-46370	---
1/2" x 1"	.587	03-46375	---
1/2" x 1-1/4"	.734	03-46380	---
1/2" x 2"	1.170	03-46390	---
1" x 1"	1.170	03-46450	---
1" x 1-1/4"	1.270	03-00006	---
1" x 2-1/2"	1.790	03-00142	---

IF MFG TEST REPORTS ARE REQUIRED THERE IS A --- 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"	---	---
MS20257P2	1-1/16"	.040"	---	---
MS20257P3	1-1/4"	.040"	---	---
MS20257P4	1-1/2"	.040"	---	---
MS20257P5	2"	.051"	---	---
MS20001P3	1-1/4"	.056"	---	---
MS20001P4	1-1/2"	.056"	---	---
MS20001P5	1-3/4"	.056"	---	---
MS20001P6	2"	.056"	---	---
MS20257C1	3/4"	.031	---	---
MS20257C2	1-1/16"	.037	---	---
MS20257C3	1-1/4"	.050	---	---
MS20257C4	1-1/2"	.062	---	---
MS20257C5	2"	.062	---	---

* 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.



BARGAIN BAG OF ALUMINUM TUBING

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



6063T52 U CHANNEL

3/4"x 3/4"x1/8"..... P/N 03-38950/ft.
 1"x1"x1/8"..... P/N 03-39050/ft.
 1-1/4"x1-1/4"x1/8"..... P/N 03-39150/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.**

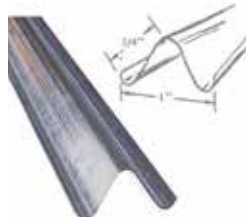
10 Ft. Length.....P/N 03-48900

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



"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. LengthP/N 03-46500
Less 10% on orders for 12 or more.

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/lb.
 3/32" dia. P/N 03-27525/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/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" diaP/N 03-27555/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" diaP/N 03-27570/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/lb.

COPPER TUBING



O.D. (In.)	Wall Thickness	Part No.	Price/Ft.
1/8	.030	03-40900	---
1/4	.030	03-41000	---
5/16	.032	03-41100	---
3/8	.032	03-41200	---
1/2	.032	03-41250	---

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



.125 X 1/2" wide

Length (ft.)	Part Number	Price
1	11-40890-1	---
2	11-40890-2	---
3	11-40890-3	---
4	11-40890-4	---
5	11-40890-5	---
6	11-40890-6	---



2024T3511 2 X 1-3/4 T ALUMINUM

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

ACRYLIC – LEXAN – NYLON

ACRYLIC SHEET



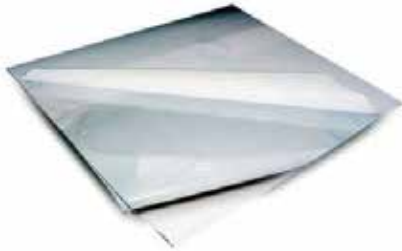
American made acrylic sheet Grade C to Specification LP-391 is unshrunk. When heated to forming temperature of 220-250°F, it will shrink about 2.2% in length and width and will increase about 4% in thickness. When heated to a pliable state it can be drilled, sawed and machined. It has excellent resistance 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	---
2x2	.080 Clear	.49	03-49902	---
2x2	.118 Clear	.62	03-50002	---
2x2	.118 Tinted*	.77	03-50102	---
2x2	.118 Tinted**	.77	03-50202	---

* 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	---
2x2	.093	.59	03-50502	---
2x2	0.118	.78	03-50602	---

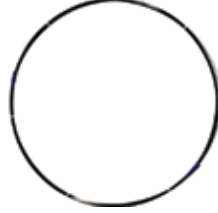
* Order by basic part number and add last two digits according to dimensions of piece, as follows: 2'x4' (8 Sq.Ft.) add "04"; 4'x4' (16 Sq.Ft.), add "08"; 4'x8' (32 Sq.Ft.), add "10". Example: 4'x4' of .093 is P/N 03-50508.



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/Sheet

GRAPHITE CARBON FIBER ROD



Prepreg tape has an inherent waviness which can reduce the strength and stiffness of a laminate. Graphite rod eliminates fiber waviness and unlike tape, it can be placed along any curved surface and retain fiber alignment. Graphite can be used in layers to form building blocks for stiffeners, spar caps, longerons and other axially loaded parts. Components made with Graphite 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. Graphite 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. Graphite rod.

Rod Type	Rod Diameter	Tensile Strength	Part Number	Price per roll
IM	0.067	503	03-50706	--- /100 ft.
SM	0.125	503	03-50707	--- /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	---
1/8	.77	03-51100	---
1/4	1.54	03-51200	---
1/2	3.07	03-51300	---
3/4	4.61	03-51400	---
1	6.15	03-51500	---

* 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	---
1/4	03-51700	---
1/2	03-51800	---
3/4	03-51900	---
1	03-52000	---
1-1/4	03-52100	---
1-1/2	03-52200	---
2	03-52300	---

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	---
1/8	.844	03-52500	---
3/16	1.349	03-00111	---
1/4	1.853	03-52600	---
3/8	2.772	03-52700	---
1/2	3.685	03-52800	---
3/4	5.495	03-52900	---

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" diaP/N 03-53100 /ft.
3/4" diaP/N 03-53200 /ft.

GRADE XXX (PAPER BASE) PHENOLIC TUBING



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

Other sizes and wall thicknesses available at comparable prices

CLEAR EXTRUDED ACRYLIC TUBING



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

GLASS EPOXY ROD



G-10 Glass Epoxy Rod - 5/8" Dia.
P/N 03-50900 /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 /ft.

WELD-ON ACRYLIC CEMENT

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



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
Gallon.....P/N 03-55105



DELRI[®] 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	---	3/4"	02-52034	---
3/16"	02-52316	---	7/8"	02-52078	---
1/4"	02-52014	---	1"	02-52001	---
5/16"	02-52516	---	1-1/8"	02-52118	---
3/8"	02-52038	---	1-1/4"	02-52114	---
7/16"	02-52716	---	1-3/8"	02-52138	---
1/2"	02-52012	---	1-1/2"	02-52112	---
9/16"	02-52916	---	1-3/4"	02-52134	---
5/8"	02-52058	---	2"	02-52002	---



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

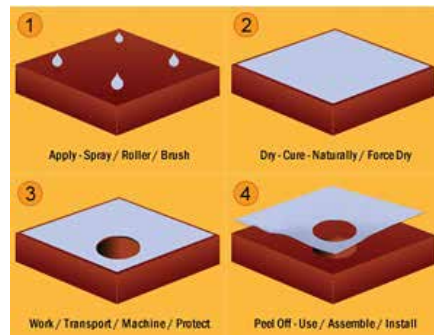
ACRYLIC DRILL BITS



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	---	5/16"	12-05493	---
5/32"	12-05490	---	3/8"	12-05494	---
3/16"	12-05491	---	7/16"	12-05495	---
1/4"	12-05492	---	1/2"	12-05496	---

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
Gallon.....P/N 03-00159