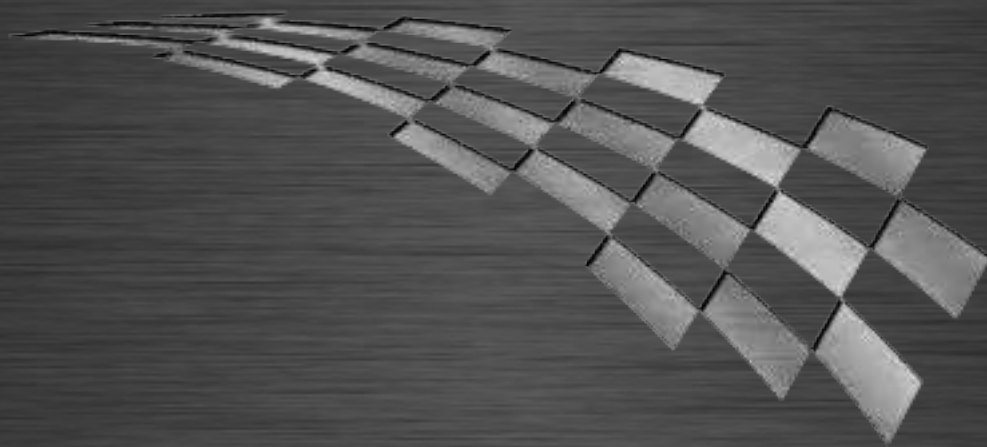


a.e.d.
MOTORSPORT PRODUCTS



“THE WORLD’S FASTEST METALS DISTRIBUTOR”



"Thank you for checking out A.E.D. Motorsport Products for your metal and fabrication requirements. Since 1995, we have been building our business with the support of our customers and our suppliers, all trusted partners.

Without the continued loyalty, and open willingness of our customers to share A.E.D.'s name to friends, family, co-workers and business associates, we would not have been able to grow as we have. It is an honor and a privilege to serve in this industry, and for that we are more appreciative than we can truly express in a few words.

We continue to be strong in our core products, including 4130 Chrome Moly, Docol R8, mild steel, aluminum, stainless, FK Rod Ends and much more.

Our saw-cutting and shearing services are also very popular, and we are happy to supply the material for these jobs, but our customers are welcome to do so as well.

International shipping is also very common for A.E.D. We can arrange for your material to get to you by air or sea. We ship to more than 30 countries on a regular basis. Please do not be concerned that there are thousands of miles between your door and ours!

Perhaps you noticed some of our new products as you review our website. We have recently added a wide selection of polishes, cleaners, sealants and lubricants from VALCO CINCINNATI. We are very excited about our newest addition of tube and sheet products from SSAB, a Swedish producer of specialty materials. Docol R8 tube is setting a new standard in high strength steel for chassis manufacture. So far, the response has been very positive, and as of now, we have more than 25 sizes in stock. Additionally, we now have 7 sizes of Docol sheet and Domex plate in stock, also produced by SSAB.

Safety is also becoming increasingly more important in the racing industry. We are continuing to work with laboratories and other organizations to test our key racing materials, as well as setting up crash tests to learn and share results that can improve safety among all racing series.

Please let us know how A.E.D. can be of service. We are just as comfortable working with the purchasing agent for a professional race team as we are with the weekend racer. We have a dedicated staff of professionals that are focused on helping you with whatever you need. If we are not meeting your expectations in any way, I hope you will please let me know. We will do everything in our power to make your experience with A.E.D. a positive and satisfying one.

Thank you again for your interest A.E.D. We look forward to working with you."

David Gordon
Sales Manager
A.E.D. Motorsport Products
"The World's Fastest Metals Distributor"

DRIVEN
TO MAKE IT HAPPEN!

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2015 A.E.D. Catalog



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Purchasing Information

TUBING

Steel and alloy tubing are typically stocked in 17' to 24' random lengths. Aluminum round tube is generally stocked in 12-24' lengths and square tube in 21' lengths. You may purchase the entire length or by the foot.

BARS

Bar stock is generally stocked in 12' random lengths. Small diameter items be stocked in 6' random lengths. Bar is sold by the length or by the foot.

ALUMINUM SHEETS

Stock size on standard aluminum sheets is 48" x 144" (except Prepainted). Cut pieces are available (except Prepainted). 3003 Tread Bright sheets may be 48" x 96" or 48" x 120", depending on thickness. All cuts are based on 48" wide x 12" multiples. Example: you require a piece 16" x 37", A.E.D. will offer 48" x 24". Plate stock .190" thick and up will be cut to customer's needs. Prepainted Aluminum sheets are sold as full sheets only, 48" x 120".

STAINLESS STEEL SHEET

Stainless Sheets are typically stocked as 48" x 96" or 48" x 120", although this can change, based on availability. Cut pieces are available. All cuts are 48" wide x 12" multiples. (Example: you require a piece 16" x 37", A.E.D. will offer 48" x 24".)

NOTE ON LENGTHS AND SHIPPING

Tubing is manufactured in random lengths ranging from 17' to 24'. If you can use lengths of 8' long or less, UPS is the fastest and most economical way to ship. For best pricing, specify "full length cut to 8' plus drops." We will also cut to lesser lengths within reason. Full lengths must be taken to receive "full length pricing." For orders with pieces over 8' long, truck shipment will be required and you will receive full random lengths.

It is always most economical to purchase the entire piece or length of material, but is not required. Availability of inventory stock items may change periodically or seasonally; and in some cases, availability may be limited. Please call.

General Information

Hours of Operation

Mon. - Fri. 8 am to 5 pm EST

Phone: 317-334-0569

U.S. & Canada Toll Free: 888-413-0233

Fax: 317-879-9397

A.E.D. Motorsport Products

5373 W. 86th Street

Indianapolis, IN 46268 USA

www.aedmotorsport.com

Delivery & Shipping

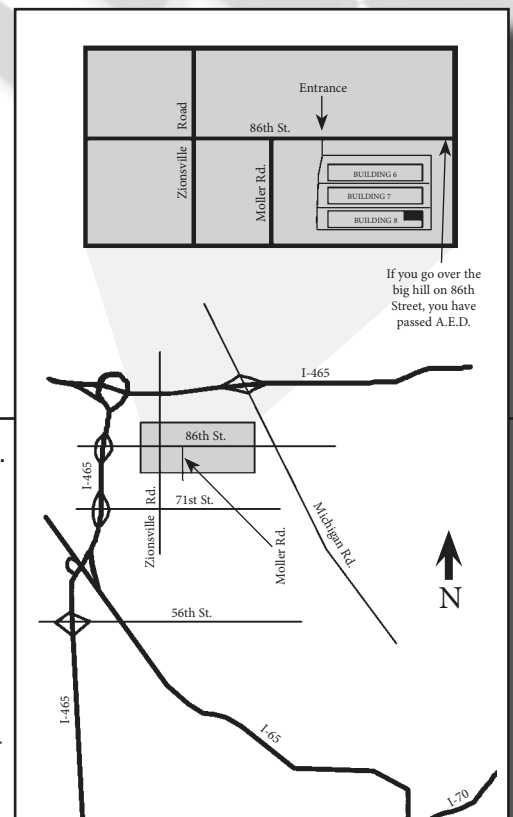
Indianapolis-area delivery is available via A.E.D. or preferred courier service. Orders placed by 1:00 p.m. from in-stock products, will ship UPS same day. Shipments scheduled on common carrier, will usually ship within 24 hours. Info is subject to change without notice.

Shipping Options

Orders under 6' have a \$10 handling charge and over 6' a \$15 handling charge. Handling charges are subject to change. Additional UPS C.O.D. charges may apply. UPS no longer accepts cash.

Additional handling charge for packages over 60". UPS orders placed by 1 pm, will ship same day. UPS chart rates based on package weight and shipping zone. Shipping charges are subject to change UPS.

Larger orders can be shipped anywhere in the U.S. via common carrier (freight collect). No Common carrier C.O.D. shipments. International orders shipped via your freight forwarder or ours. "Door to airport" methods, including UPS and U.S. mail available. Customer pickup is always welcome.



Business Policies

DISCLAIMER

The materials described and sold within this catalog are purchased to the specifications stated. Any materials sold by A.E.D. Motorsport Products are purchased by the buyer "as is" and "with any faults" and the seller makes no warranty of merchantability or fitness for any particular purpose. Please be sure you understand the mechanical requirements of your project. We are not engineers and rely on your request of materials required. Material certifications are available on most products. Certifications must be requested at time of order, and additional charges may apply.

NONDISCLOSURE STATEMENT

Due to the nature of our customers and the confidential needs of their businesses, each and every A.E.D. employee must agree to and sign a Nondisclosure Agreement. This is to assure our customers that their ideas, needs, and future plans are secure. All customer relations are regarded as strictly confidential. You, as our customer, may rest assured that your ideas, needs, and usage of material is secure within our files.

TEST REPORTS/CERTIFICATIONS

Documentation available on most products. Request for test reports/certifications must be made at time of order. An additional charge of \$15.00 per item may apply.

MATERIAL AVAILABILITY

Please be aware that not all products listed in national distributors catalogs are truly available. Please check with A.E.D. prior to finalizing your engineering plans. Many products have not been produced for many years while other items may only be produced annually or less.

PRICING

Pricing is intentionally omitted from this catalog to assure our customers the best pricing available. Due to various market changes, prices of materials may fluctuate from time to time. We re-quote at the time of order. \$25.00 minimum order.

RETURN POLICY

Any returns of material are subject to management approval and are not guaranteed. A 25% restock fee will be assessed. Absolutely no returns on special orders or cut material. A return material authorization (RMA) number is required in advance.

PAYMENT ARRANGEMENTS

A.E.D. accepts several payment options. Orders may be charged to: VISA & MASTERCARD. Please provide card name, account number, expiration date, security code, and cardholder's name and address. Checks and bank drafts are also accepted.

Orders shipped within the USA may be shipped UPS COD at customer request. Additional charges apply. Absolutely NO truckline COD shipments and NO COD shipments outside the USA. International customers may pay by wire transfer. A Processing Fee will be added to order total for each wire transfer payment accepted. Open account with Net 15 day terms may be arranged with our billing office. Please request a credit application. Personal guarantee may be required.

Of course, we will also accept cash if you are picking your order up!



Docol R8 Round Tube

Sweden-based SSAB has, together with A.E.D. Motorsport Products as the North American distributor, developed a range of tube sizes for the motorsports industry. Docol R8 tubes are certified, advanced high strength steels manufactured under tightly controlled processes. Cleaner materials are used to yield a quality product of very high strength, good formability and consistent mechanical and dimensional characteristics. Docol has been approved by SFI as an alternative to 4130 Chrome Moly and meets these SFI Specs: NHRA Top Fuel and Nitro Funny Cars - SFI Spec 2.3 & 10.5, NHRA Full Bodied Cars – SFI Spec 25.x Pro Stock, Pro Mod, Pro Street and all classes of NHRA race cars.



Typical applications

- Chassis
- Roll cages
- Suspension components
- Safety Cells

Benefits

- Material property consistency
- Very good weldability
- Narrow thickness tolerances
- Safe non-brittle break mode
- Strong
- Good formability
- Suitable for welding to 4130 and mild steel. (Use ER80S filler material)

Docol R8		VS	4130	
Property	Value		Property	Value
Tensile Strength psi	116,000 min		Tensile Strength psi	95,000 min
Yield Strength psi	100,000 min		Yield Strength psi	75,000 min
Elongation (% in 2")	13 min		Elongation (% in 2")	12 min
Diameter Tolerance	+/- .006"		Diameter Tolerance	+/- 10%
Wall Thickness tol.	+/- .005"		Wall Thickness tol.	+/- 10% of wall

The Docol R8-Series tubes are developed to provide a more state of the art alternative to 4130 Chrome Molybdenum tubes in many applications where you benefit from their consistency, tolerances and safety in combination to their very high strength. For complete metallurgical data see our website www.docolr8tube.com

Product Availability

O.D. IN.	Wall Thickness	I.D. IN.	Weight/ Foot (lbs)	O.D. IN.	Wall Thickness	I.D. IN.	Weight/ Foot (lbs)
0.625	0.035	0.555	0.2205	1.250	0.095	1.060	1.1720
0.625	0.049	0.527	0.3014	1.375	0.049	1.277	0.6939
0.625	0.058	0.509	0.3512	1.375	0.058	1.259	0.8158
0.750	0.049	0.652	0.3668	1.375	0.065	1.245	0.9094
0.750	0.058	0.634	0.4287	1.375	0.083	1.209	1.1450
0.750	0.065	0.620	0.4755	1.375	0.095	1.185	1.2990
0.875	0.058	0.759	0.5061	1.500	0.058	1.384	0.8932
1.000	0.049	0.902	0.4977	1.500	0.065	1.370	0.9962
1.000	0.058	0.884	0.5835	1.500	0.083	1.334	1.2560
1.000	0.065	0.870	0.6491	1.500	0.095	1.310	1.4260
1.125	0.049	1.027	0.5631	1.500	0.120	1.260	1.7690
1.125	0.058	1.009	0.6609	1.625	0.065	1.495	1.0830
1.125	0.065	0.995	0.7359	1.625	0.083	1.459	1.3670
1.250	0.049	1.152	0.6285	1.750	0.083	1.584	1.4780
1.250	0.058	1.134	0.7384	1.750	0.095	1.560	1.6790
1.250	0.065	1.120	0.8226	1.750	0.120	1.510	2.0890
1.250	.083	1.084	1.0340	2.000	0.120	1.760	2.4090

Docol/Domex Sheet

Docol 800 DP

Docol/Domex are certified, advanced high strength steels developed under tightly controlled processes to ensure the most consistent product possible.

Docol R8 is characterized by:

- High yield strength/tensile strength ratio - means that stresses in highly formed regions are comparable to the stresses in slightly formed regions. Small differences in residual stresses over the cross section reduce the tendency for bending and twisting of the profile.

- High internal cleanliness – less slag inclusions in the steel make it possible to roll form into narrow radii.

Typical applications for Docol Roll are safety components in cars (e.g. side impact beams, bumper reinforcements and seat rails).

Note: typical mechanical properties listed in this catalog have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data provided for information only, NOT FOR DESIGN PURPOSES.

Product Availability

Thickness	Weight/sq. ft. (lbs)
.039	1.58
.059	2.39
.078	3.17

Typical Mechanical Properties

Property	Value
Elongation (% in 2")	10
Tensile Strength psi (min-max)	116,000-137,000
Yield Strength psi (min)*	87,000

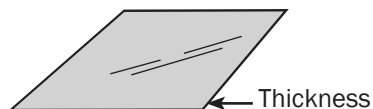
Domex 700 MC

Domex cold forming steels are thermo-mechanically rolled in modern plants where the heating, rolling and cooling processes are carefully controlled. The extra high strength steel grades are used in applications such as truck chassis, cranes and earthmoving machines. In these applications, the high strength of the steels is used to save weight and/or to increase the payload. As a result of this and the good formability of the steels, the total costs can be reduced.

Motorsport applications include suspension members, foot boxes, gussets and clutch can liners.

Product Availability

Thickness (in)	Weight/sq.ft. (lbs)
.098	3.97
.118	4.76
.157	6.35
.196	7.94
.315	12.70



Typical Mechanical Properties

Property	Value
Elongation % (.098")	12
Elongation % (.118 & Above)	10
Yield Strength psi (min)	101,000
Tensile Strength psi (min-max)	108,000-137,000

*For thicknesses over 5/16" yield min. is 98,000

Don't see it? Ask for it! We can get it.

4130 Chrome Moly Round Tube

4130, also known as Chrome Moly (short for chromium molybdenum), is a general purpose steel that has been widely used by the motorsports and aviation industries for years. Weldability, fabrication and mild hardenability make it a popular choice in all forms – tube, bar, sheet and plate.

Meets AMS-T-6736 and AMS-6360. Stocked in 17 to 24 foot random lengths; cut pieces available.

Typical Mechanical Properties

Condition N	Tensile Strength psi	Yield Strength psi	Elongation (% in 2")	Strip
Up to .035 incl.	95,000	75,000	10	5
Over .035 to .188 incl.	95,000	75,000	12	7
Over .188	90,000	70,000	15	10

Note: typical mechanical properties listed in this catalog have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed.

Data provided for information only, NOT FOR DESIGN PURPOSES.

Most of our 4130 Chrome Moly tubing, one of our most popular materials, is produced by Sand Springs, Okla.-based mill, Webco Industries. They are the leading producer of 4130 cold-drawn Chrome Moly seamless tubing; a product that is most often produced for structural members in aircraft. The material's outstanding high strength also make it ideal for the high performance racing industry. Webco's 4130 tubing exhibits high strength and superior ductility. These qualities are well suited for fabrication, bending and welding. It is tailored to meet demanding customer requirements in the motor-sports arena. A.E.D. may also have inventory in sizes produced by U.S. or German mills.

SEE NEXT PAGE FOR PRODUCT AVAILABILITY

or go to www.4130tube.com

**Weld it with
Pipemaster
Tube Templates!
See page 46**

4130 Round Tube Availability

O.D. IN.	Wall Thickness	I.D. IN.	Weight/foot lbs
0.250	0.035	0.180	0.0804
0.250	0.049	0.152	0.1052
0.312	0.035	0.243	0.1039
0.312	0.049	0.215	0.1382
0.375	0.035	0.305	0.1271
0.375	0.049	0.277	0.1706
0.375	0.058	0.259	0.1964
0.375	0.065	0.245	0.2152
0.437	0.035	0.367	0.1506
0.437	0.065	0.307	0.2589
0.500	0.035	0.430	0.1738
0.500	0.049	0.402	0.2360
0.500	0.058	0.384	0.2738
0.500	0.065	0.370	0.3020
0.500	0.095	0.310	0.4109
0.500	0.120	0.260	0.4870
0.625	0.035	0.555	0.2205
0.625	0.049	0.527	0.3014
0.625	0.058	0.509	0.3512
0.625	0.065	0.495	0.3888
0.625	0.083	0.459	0.4805
0.625	0.095	0.435	0.5377
0.625	0.120	0.385	0.6472
0.625	0.156	0.312	0.7814
0.625	0.188	0.250	0.8774
0.750	0.035	0.680	0.2673
0.750	0.049	0.652	0.3668
0.750	0.058	0.634	0.4287
0.750	0.065	0.620	0.4755
0.750	0.083	0.584	0.5913
0.750	0.095	0.560	0.6646
0.750	0.120	0.510	0.8074
0.750	0.156	0.437	0.9897
0.750	0.188	0.375	1.1280
0.875	0.035	0.805	0.3140
0.875	0.049	0.777	0.4323
0.875	0.058	0.759	0.5061
0.875	0.065	0.745	0.5623
0.875	0.083	0.709	0.7021
0.875	0.120	0.635	0.9676
0.875	0.156	0.562	1.1980
0.875	0.188	0.500	1.3790
1.000	0.035	0.930	0.3607
1.000	0.049	0.902	0.4977
1.000	0.058	0.884	0.5835
1.000	0.065	0.870	0.6491
1.000	0.083	0.834	0.8129
1.000	0.095	0.810	0.9182
1.000	0.120	0.760	1.1280
1.000	0.156	0.687	1.4060

O.D. IN.	Wall Thickness	I.D. IN.	Weight/foot lbs
1.000	0.188	0.625	1.6300
1.000	0.250	0.500	2.0030
1.125	0.035	1.055	0.4074
1.125	0.049	1.027	0.5631
1.125	0.058	1.009	0.6609
1.125	0.065	0.995	0.7359
1.125	0.083	0.959	0.9237
1.125	0.095	0.935	1.0450
1.125	0.120	0.885	1.2880
1.250	0.035	1.180	0.4542
1.250	0.049	1.152	0.6285
1.250	0.058	1.134	0.7384
1.250	0.065	1.120	0.8226
1.250	0.083	1.084	1.0340
1.250	0.095	1.060	1.1720
1.250	0.120	1.010	1.4480
1.250	0.250	0.750	2.6700
1.375	0.058	1.259	0.8158
1.375	0.065	1.245	0.9094
1.375	0.083	1.209	1.1450
1.375	0.095	1.185	1.2990
1.375	0.120	1.135	1.6080
1.500	0.035	1.430	0.5476
1.500	0.049	1.402	0.7593
1.500	0.058	1.384	0.8932
1.500	0.065	1.370	0.9962
1.500	0.083	1.334	1.2560
1.500	0.095	1.310	1.4260
1.500	0.120	1.260	1.7690
1.500	0.188	1.125	2.6340
1.500	0.250	1.000	3.3380
1.625	0.058	1.509	0.9707
1.625	0.065	1.495	1.0830
1.625	0.083	1.459	1.3670
1.625	0.095	1.435	1.5520
1.750	0.035	1.680	0.6411
1.750	0.049	1.652	0.8902
1.750	0.065	1.620	1.1700
1.750	0.083	1.584	1.4780
1.750	0.095	1.560	1.6790
1.750	0.120	1.510	2.0890
2.000	0.049	1.902	1.0210
2.000	0.065	1.870	1.3430
2.000	0.083	1.834	1.6990
2.000	0.095	1.810	1.9330
2.000	0.120	1.760	2.4090
2.000	0.250	1.500	4.6730
2.250	0.120	2.010	2.7300
2.500	0.095	2.310	2.4400

High Performance Streamline Tube

Since 2003, A.E.D. has offered the following previously unavailable sizes of high performance streamline “aerotube.” They are produced by roll-forming ROUND tubes through a series of rollers and dies. This process is cold-rolled, and no further processes, such as stress-relieving, are performed afterwards.

The round tubes can be 4130, Docol R8, Aluminum, Steel, Titanium (“CP Grade” is preferred) or Stainless. Wall thicknesses can range from .032 - .083, based on availability of round material. Minimum order is 10 feet of the round material and is subject to availability.

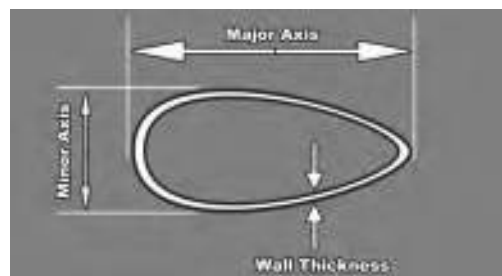
The major and minor dimensions are going to be close to the listings, but because of the variety of materials and wall thicknesses, each yields a slightly different net profile.

A.E.D.’s roll formed tubes are certified to the round tube properties only, as is customary with aerotube profiles.

Product Availability

Shape	Major	Minor	Original Round Tube
Egg	0.450	0.270	0.375
Streamline	0.550	0.295	0.438
Streamline	0.640	0.325	0.500
Streamline	0.775	0.430	0.625
Egg	0.750	0.440	0.625
Egg	0.865	0.575	0.750
Streamline	0.980	0.445	0.750
Streamline	1.150	0.520	0.875
Streamline	1.300	0.600	1.000
*Oval	1.245	0.925	1.125
*Oval	1.360	1.155	1.250
Streamline	1.645	0.740	1.250
Streamline	1.990	0.870	1.500
Streamline	2.360	0.960	1.750
Streamline	2.665	1.140	2.000

* Denotes slip fit capability with .049 wall, both pieces



Materials: 4130 Chrome Moly, Docol R8, Aluminum, Steel, Titanium or Stainless

Don't see it? Ask for it! We can get it.

4130 Square/Rectangular Tube

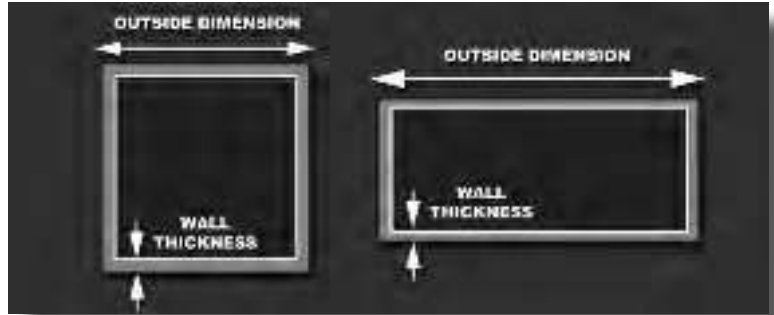
Meets AMS-T-6736 and AMS 6360.

Stocked in 17 to 24 foot random lengths; cut pieces available.

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

Product Availability

O.D. In.	Wall Thickness	Weight/Ft. lbs
.500 x .500	0.035	0.2213
.500 x 1.000	0.049	0.4671
.500 x 1.000	0.065	0.6055
.750 x .750	0.035	0.3043
.750 x .750	0.049	0.4671
1.000 x 1.000	0.035	0.4593
1.000 x 1.000	0.049	0.6337
1.000 x 1.000	0.065	0.8265
1.000 x 1.500	0.065	1.048
1.000 x 1.750	0.065	1.158
1.000 x 2.000	0.065	1.269
1.500 x 1.500	0.065	1.268



Typical Mechanical Properties

Condition N	Tensile Strength psi	Yield Strength psi	Elongation in 2" Tube	Elongation in 2" Strip
Up to .035 incl.	95,000	75,000	10	5
Over .035 to .188 incl.	95,000	75,000	12	7
Over .188	90,000	70,000	15	10

4130 Sheets Normalized & Annealed

Normalized Condition meets AMS 6345, and it is sometimes referred to as "Normalized or Otherwise Heat-Treated to meet AMS 6345." It is also known as Condition "N." Normalized is the harder and stronger grade.

Annealed Condition meets AMS 6350. Annealed is the softer and more formable grade. It also known as Condition "A."

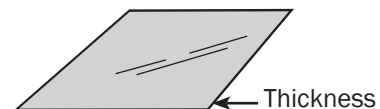
Thicknesses above .125" are typically stocked in a hot-rolled ("HR") finish, which means they may have a surface texture. This is very common in these thicknesses. 4130 sheets are stocked in 36" x 72" full sheets. Cut pieces are available.

Typical Mechanical Properties

Condition	Annealed	Normalized up to .062-.187	Normalized over .187-1.50
Tensile Strength psi	85,000 max	95,000 min	90,000 min
Yield Point psi	--	75,000	70,000
Elongation (% in 2")	--	8-12	15-18

Product Availability

Thickness	Weight/sq.ft. lbs	Thickness	Weight/sq.ft. lbs
0.025	1.0200	0.100	4.0800
0.032	1.3060	0.125	5.100
0.040	1.6320	0.160	6.5280
0.050	2.0400	0.190	7.7520
0.063	2.8970	0.250	10.2100
0.071	2.8970	0.375	15.3200
0.080	3.2640	0.500*	20.4200
0.090	3.6720	*Normalized only	

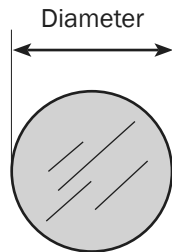


4130 Round Bar

4130 bars meet AMS-S-6758 among other specifications. Stocked in 11 to 13 foot random lengths; cut pieces available. Typically stocked in Cold Finished Normalized (Condition "D4").

Product Availability

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.



Diameter in.	Weight lbs
0.187	0.094
0.250	0.167
0.312	0.261
0.375	0.376
0.500	0.668
0.563	0.846
0.625	1.044
0.750	1.504
0.875	2.046
1.000	2.673

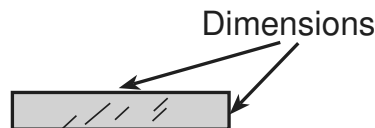
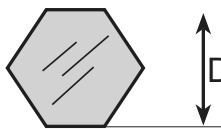
Diameter in.	Weight lbs
1.125	3.383
1.250	4.176
1.375	5.053
1.500	6.014
1.625	7.058
1.750	8.186
1.875	9.397
2.000	10.690
2.500	16.710
3.000	24.060

Typical Mechanical Properties

Tensile Strength psi	Yield Point psi	Elongation (% in 2")	Reduction of Area
125,000	100,000	17 min	55 min

4130 Hex & Flat Bar

4130 bars meet AMS-S-6758 among other specifications. Stocked in 11 to 13 foot random lengths; cut pieces available. Typically stocked in Cold Finished Normalized (Condition "D4")



Typical Mechanical Properties

Property	Value
Tensile Strength psi	125,000
Yield Point psi	100,000
Elongation (% in 2")	17 min
Reduction of Area	55 min

Hex Bar Availability

Size	Weight/ft lbs
0.375	0.4145
0.500	0.7368
0.625	1.1510
0.750	1.6580
1.000	2.9470

Flat Bar Availability

Dimensions	Weight/ft lbs
.250 x 1.000	0.8508
.500 x 1.000	1.702
.500 x 4.000	6.806
.625 x 4.000	8.508
1.000 x 1.250	4.254
1.000 x 2.000	6.806
1.000 x 4.000	13.61

1020 Mild Steel Drawn Over Mandrel Tube

DOM refers to steel round tube that is “drawn over mandrel” and is also commonly known as a seamless round tube. It is produced from a steel strip that is electric-resistance welded, then normalized and cold drawn to a smaller dimension with a thinner wall thickness, producing a seamless-like finish.

DOM tubing may be machined, formed, welded, carburized etc. Machinability is good to excellent, and weldability is excellent.

The grade is typically 1020, but may also be 520 or 1026. The 1026 grade is normally for OD's larger than 2" and wall thicknesses heavier than .156". 1020 and 1026 meet ASTM A513 Type 5. 1026 may also meet ASTM A519 and may also be referred to as Cold Drawn Seamless (CDS), DOM or Hot Finished Seamless (HFS).



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Tube Templates!
See page 46**

Typical Mechanical Properties

Property	1020	1026 CDS	1026 DOM	1026 HFS
Tensile Strength psi	80,000	87,000	80,000	70,000
Yield Point psi	70,000	72,000	70,000	47,000
Elongation (% in 2")	15	10	10	28
Rockwell Hardness	RB80	RB89	RB85	RB78

Product Availability

O.D.	Wall Thickness	I.D.	Weight/ft. lbs
0.500	0.095	0.310	0.411
0.625	0.120	0.385	0.647
0.750	0.065	0.620	0.476
0.750	0.083	0.584	0.591
0.750	0.095	0.560	0.665
0.750	0.120	0.510	0.807
0.750	0.156	0.437	0.990
0.875	0.095	0.685	0.791
0.875	0.120	0.635	0.968
0.875	0.156	0.563	1.198
0.875	0.188	0.500	1.379
1.000	0.065	0.870	0.649
1.000	0.095	0.810	0.918
1.000	0.120	0.760	1.128
1.000	0.156	0.687	1.406

O.D.	Wall Thickness	I.D.	Weight/ft. lbs
1.125	0.120	0.885	1.288
1.250	0.065	1.120	0.823
1.250	0.083	1.084	1.034
1.250	0.095	1.060	1.172
1.250	0.120	1.010	1.448
1.500	0.065	1.370	0.996
1.500	0.083	1.334	1.256
1.500	0.095	1.310	1.426
1.500	0.120	1.260	1.769
1.625	0.120	1.385	1.929
1.750	0.095	1.560	1.679
1.750	0.120	1.510	2.089
1.750	0.250	1.250	4.005
2.000	0.120	1.760	2.409

Mild Steel

Electric Welded Round Tube

Mild steel tubes manufactured by the electric-resistance welding process, are often referred to as ERW or EW, among other names. These tubes have a welded seam on the inside and are typically more economical than seamless steel tubes. They may be available as cold-rolled (CR) or hot-rolled (HR) in round, square, and rectangle dimensions. A.E.D. generally does not differentiate our stock between CR and HR tubes. ERW tubes have excellent weldability and good machinability properties, as well as bending, swaging, and machining. A.E.D. stocks materials from reputable producers for structural applications, rather than furniture grade with greater deviation in mechanical properties.

A.E.D. stocks several sizes of welded steel tubing and it is produced in "random lengths" that can range between 20 to 24 feet long. The best pricing is always when you order full lengths, which can be cut for economical shipping methods. A.E.D. also offers "cut-to-size" pieces. **These tubes may occasionally be referred to as Grade 1008-1010 or 1020, and they meet ASTM A513, Types 1 and Type 2.**

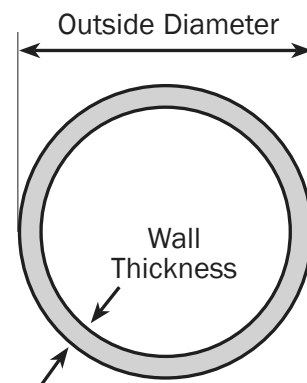
Product Availability

O.D.	Wall Thickness	I.D.	Weight/ft lbs
0.500	0.065	0.370	0.3020
0.625	0.049	0.527	0.3014
0.625	0.065	0.495	0.3888
0.750	0.049	0.652	0.3668
0.750	0.065	0.620	0.4755
0.750	0.083	0.584	0.5913
0.875	0.049	0.777	0.4323
0.875	0.065	0.745	0.5623
1.000	0.035	0.930	0.3607
1.000	0.049	0.902	0.4977
1.000	0.065	0.870	0.6491
1.000	0.083	0.834	0.8129
1.250	0.065	1.120	0.8226
1.250	0.083	1.084	1.0340
1.500	0.065	1.370	0.9962
1.500	0.083	1.334	1.2560
1.500	0.095	1.310	1.4260
1.625	0.134	1.357	2.1340
1.750	0.095	1.560	1.6790
1.750	0.134	1.482	2.3130
3.000	0.065	2.870	2.0370

Typical Mechanical Properties

Property	Value
Tensile Strength psi	45,000
Yield Strength psi	32,000
Elongation (% in 2")	15 min
Rockwell Hardness	RB55 min

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.



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See page 46**

Mild Steel Electric Welded Rectangular/Square Tube

Mild steel tubes manufactured by the electric-resistance welding process, are often referred to as ERW or EW, among other names. These tubes have a welded seam on the inside and are typically more economical than seamless steel tubes. They may be available as cold-rolled (CR) or hot-rolled (HR) in round, square and rectangle dimensions. A.E.D. generally does not differentiate our stock between CR and HR tubes. ERW tubes have excellent weldability and good machinability properties, as well as bending, swaging and machining. A.E.D. stocks materials from reputable producers for structural applications, rather than furniture grade with greater deviation in mechanical properties.

A.E.D. stocks several sizes of welded steel tubing and it is produced in random lengths that can range between 20 to 24 feet long. The best pricing is always when you order full lengths, which can be cut for economical shipping methods. A.E.D. also offers "cut-to-size" pieces. **These tubes may occasionally be referred to as Grade 1008-1010 or 1020, and they meet ASTM A513, Types 1 and Type 2.**

Product Availability

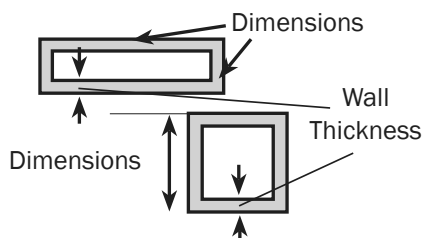
O.D.	Wall Thickness	Weight/ft lbs
.500 x .500	0.065	0.385
.500 x 1.00	0.065	0.606
.500 x 1.50	0.065	0.806
.750 x .750	0.065	0.606
.750 x .750	0.083	0.753
1.00 x 1.00	0.049	0.634
1.00 x 1.00	0.065	0.827
1.00 x 1.00	0.083	1.035
1.00 x 1.00	0.120	1.436
1.00 x 1.50	0.065	1.048
1.00 x 1.50	0.120	1.844
1.00 x 2.00	0.065	1.269
1.00 x 2.00	0.083	1.600
1.00 x 2.00	0.120	2.252
1.00 x 3.00	0.065	1.711
1.00 x 3.00	0.120	3.068
1.25 x 1.25	0.065	1.047
1.25 x 1.25	0.120	1.844

O.D.	Wall Thickness	Weight/ft lbs
1.50 x 1.50	0.065	1.268
1.50 x 1.50	0.083	1.599
1.50 x 1.50	0.095	1.815
1.50 x 1.50	0.120	2.252
1.75 x 1.75	0.065	1.490
1.75 x 1.75	0.083	1.882
2.00 x 2.00	0.065	1.710
2.00 x 2.00	0.083	2.164
2.00 x 2.00	0.120	3.068
2.00 x 2.00	0.187	4.320
2.00 x 2.00	0.250	5.410
2.00 x 3.00	0.083	2.728
2.00 x 3.00	0.120	3.884
2.00 x 4.00	0.120	4.700
2.00 x 4.00	0.188	6.870
3.00 x 4.00	0.125	5.516
4.00 x 4.00	0.250	12.210

Typical Mechanical Properties

Property	EW	Grade A	Grade B	Grade C
Tensile Strength psi	55,000	45,000	58,000	62,000
Yield Strength psi	40,000	39,000	46,000	50,000
Elongation (% in 2")	20	25	23	21
Rockwell Hardness	RB60	n/a	n/a	n/a

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.



Cold Rolled Commercial Quality Steel Sheet

Cold Rolled Commercial Quality Steel sheet is a general purpose mild steel that is suitable for stamping, forming, welding, and moderate drawing operations. Also available, but not kept in stock, is a Drawing Quality Steel which has greater ductility and is used for parts where severe forming or drawing is required.

Product Availability

Gage	Thickness	Sheet Size	Weight/ sq.ft. lbs
24 GA	.024	48 x 120	1.00
22 GA	.030	48 x 120	1.30
20 GA	.036	48 x 120	1.50
18 GA	.048	48 x 120	2.00
16 GA	.063	48 x 120	2.50
14 GA	.074	48 x 120	3.10
11 GA	.120	48 x 120	5.00

Typical Mechanical Properties

Property	Commercial Quality	Drawing Quality
Tensile Strength psi	38,000-50,000	36,000-46,000
Yield Point psi	25,000-35,000	23,000-30,000
Elongation (% in 2)	35-42	38-43
Rockwell Hardness	RB40-RB60	RB38-RB50

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

Hot Rolled Commercial Quality Steel Sheet

A.E.D. stocks hot rolled steel sheet from .187" to .375". Typically stocked "hot-rolled and pickled and oiled," but occasionally only plain hot-rolled steel is available. Pickled and oiled (P&O) sheets typically have a smoother and cleaner surface texture. Meets ASTM A36.

Product Availability

Gage	Thickness	Sheet Size	Weight/ sq.ft. lbs
3/16"	.187	48 x 120	7.66
1/4"	.250	48 x 120	10.21
3/8"	.375	48 x 120	15.31

Typical Mechanical Properties

Property	Value
Tensile Strength psi	58,000-80,000
Yield Point psi	36,000 min
Elongation (% in 2")	18 min*

*Subject to reduction for thicknesses under 5/16"

Hot Rolled Steel Angle

A.E.D. stocks several sizes of hot rolled steel angles. Other dimensions also are available. Meets ASTM A36. Stocked in 20' random lengths; cut pieces available.

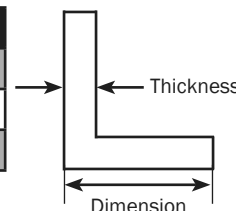
Product Availability

Size	Weight/ft. lbs
.500 x .500 x .125	0.380
.750 x .750 x .125	0.590
1.00 x 1.00 x .125	0.800
1.25 x 1.25 x .125	1.010
1.50 x 1.50 x .125	1.230
2.00 x 2.00 x .125	1.650
2.00 x 2.00 x .250	3.190
3.00 x 3.00 x .250	4.900

Typical Mechanical Properties

Property	Value
Tensile Strength psi	58,000-80,000
Yield Point psi	36,000 min
Elongation (% in 2")	20 min*

*Subject to a deduction from the above percentage of elongation for thicknesses under 5/16" and over 3/4"



1018 Mild Steel Cold Finish Flat/Round/Square Bar

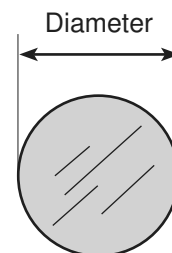
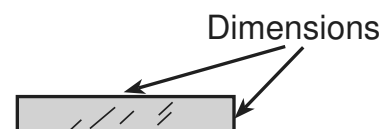
1018 is a general purpose low-carbon mild steel that is relatively soft, easily weldable and formable. It has good case hardening qualities and is especially suited to cold forming and bending operations. Material is suitable for parts which require cold forming (such as crimping, swaging, or bending). Stress-relieving may be necessary to prevent cracking when attempting severe bends. **1018 cold finished bar meet ASTM A108.**

1018 steel bars are stocked in 11 to 13 foot random lengths; cut pieces available.

Flat Bar Availability

Thickness	Width	Weight/ft lbs
0.125	.250	0.1064
0.125	.500	0.2127
0.125	1.00	0.4254
0.125	1.500	0.6381
0.125	2.000	0.8508
0.125	3.000	1.2760
0.125	4.000	1.7020
0.187	1.000	0.6381
0.187	1.500	0.9572
0.187	2.000	1.2760
0.250	0.500	0.4254
0.250	1.000	0.8508
0.250	2.000	1.7020
0.250	3.000	2.5520
0.250	4.000	3.4030

Thickness	Width	Weight/ft lbs
0.250	6.000	5.105
0.250	8.000	6.806
0.375	1.000	1.2760
0.375	2.000	2.5520
0.375	3.000	3.8290
0.375	4.000	5.1050
0.500	1.000	1.7020
0.500	2.000	3.4030
0.500	3.000	5.1050
0.500	4.000	6.8060
0.500	8.000	13.6100
0.625	1.250	2.6590
0.625	1.500	3.1910
1.000	1.500	5.1050
1.000	2.000	6.8060
1.000	4.000	13.6100



Round Bar Availability

Diameter	Weight/ft lbs
0.187	0.0940
0.250	0.1671
0.375	0.3759
0.500	0.6682
0.625	1.0440
0.750	1.5040
0.875	2.0460
1.000	2.6730
1.125	3.3830
1.250	4.1760
1.500	6.0140
2.000	10.690
3.000	24.060

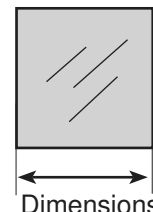
Square Bar Availability

Thickness	Width	Weight/ft lbs
.500	.500	.8508
1.000	1.000	3.4030
2.000	2.000	13.6100

Typical Mechanical Properties

Property	1" Round, Cold Drawn
Tensile Strength psi	85,000
Yield Point psi	70,000
Elongation (% in 2")	28
Reduction of Area %	55
Brinell Hardness	167

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.



2024-T3 Aluminum Bar, Sheet and Plate

2024 Aluminum: high strength, fatigue-resistant for structural applications in motorsports and aircraft industries; good machinability. Good corrosion resistance in non-industrial, poor for marine use. A.E.D. Typically stocks 2024 Round, Flat, Square and Hex Bars in extruded form (T3511), which meets Federal Specification QQ-A-200/3. Cold finished (T351), which meets QQ-A-225/6, may also be available on request. Stocked in 12 foot lengths.

A.E.D. typically stocks 2024 plate in bare form (T3/T351), which means it meets Federal Specification QQ-A-250/4. Stocked in full sheets (48" x 144"). Cut pieces available. Other sheet and plate sizes may also be available on request, as well as Alclad, which meets QQ-A-250/5. Cladding provides superior corrosion resistance.

Generally, 2024 is not a weldable alloy.

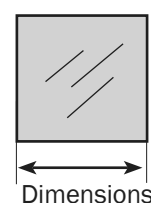
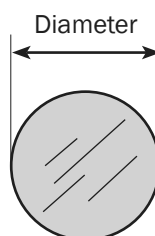
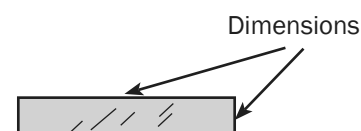
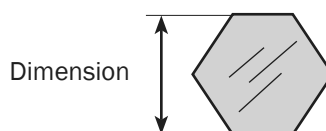
Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

Typical Mechanical Properties

Property	2024-0 Bare	2024-T3 Bare	2024-T4, T351 Bare	2024-0 Alclad	2024-T3 Alclad	2024-T4 T351
Tensile Strength psi	27,000	70,000	68,000	26,000	65,000	64,000
Yield Strength psi	11,000	50,000	47,000	11,000	45,000	42,000
Elongation (% in 2")	20	18	20	20	18	19
1/2" Round	22		19			
Min. Cold Bend Radius for .064	0	3-5T	3-5T			
Brinell Hardness	47		120			
Ultimate Shearing Strength psi	18,000	41,000	41,000	18,000	40,000	40,000

Cut pieces available.

**Call for
Product Availability
& Dimensions**



Don't see it? Ask for it! We can get it.

3003-H14 Aluminum Sheet

3003 Aluminum: general purpose aluminum, moderate strength, good workability and weldability, excellent corrosion resistance; non-heat treatable, may be deep drawn, welded or brazed. Also available in Tread Bright and 3105 Prepainted

A.E.D. Stocks 3003 Sheet in H-14 Temper, which meets federal specification - QQ-A-250/2. Stocked in full sheets (48" x 144"). Cut pieces are available - Other thicknesses and tempers may be available upon request. Used for body work, floors, and fluid tanks.

Product Availability

Thickness	Weight/sq.ft lbs
.032	0.456
.040	0.570
.050	0.713
.063	0.898
.080	1.141
.090	1.283
.125	1.782

Typical Mechanical Properties

Property	3003-H14	3003-O
Tensile Strength psi	22,000	16,000
Yield Strength psi	21,000	6,000
Elongation (% in 2")	8	30
Min. 90° Cold Bend Radius for .064" thick	0	0
Brinell Hardness	40	28
Ultimate Shearing Strength psi	14,000	11,000

Note: The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

3003 Aluminum Tread Bright

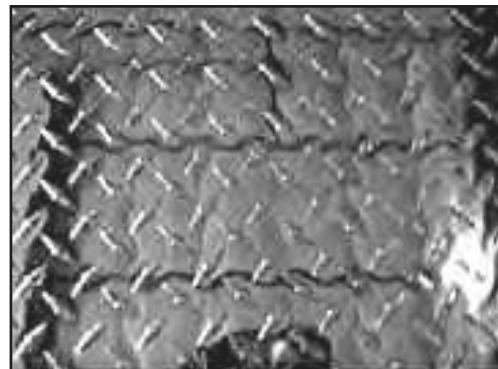
A.E.D. stocks 3003 treadbright patterned sheet in .063" and .125" thicknesses. Full sheets and cut pieces available 48" wide x 12" increments. 6061 treadplate also available for order.

Product Availability

Sheet Size	Weight	SKU
0.063 x 48 x 120	1.01	330STP063120
0.125 x 48 x 96	1.92	330STP12596

Typical Mechanical Properties

Tensile Strength psi	Yield Strength psi
23,000	20,000



3105 Prepainted Aluminum Sheet

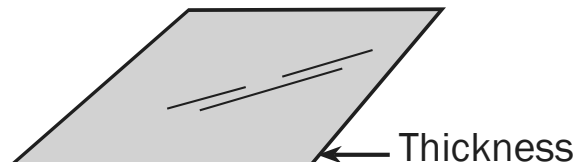
A.E.D. stocks pre-finished aluminum sheet in a variety of colors. Typical applications include signage, body panels, pit equipment, and trailers. Sheets are .040" x 48" x 120" and sold by the FULL SHEET only. Additional colors, sheet sizes, and thicknesses are available on a special order basis.

Typical Mechanical Properties

Thickness	Weight/sq ft lbs
.040	.576

New colors in stock now!

- Super bright white on super bright white (same color on both sides)
- Gloss black on white
- Gloss black on gloss black
- Matte black on matte black
- Chevron blue on Chevron blue
- Yellow on white
- Orange on white
- Pepsi blue on white
- Chevron blue on white
- Heron blue on white
- Red on white
- Extreme red on white
- Bright clear anodized (mirror-like)



5052-H32 Aluminum Sheet

5052 Aluminum: highest strength grade of aluminum of non-heat-treatable alloys; higher fatigue strength, excellent resistance to salt water atmosphere, excellent weldability and workability, and excellent finishing characteristics. Anodic coatings are bright and clear. Sheets are 48" x 144". Meets ASTM B209-10 and QQ-A-250/8.

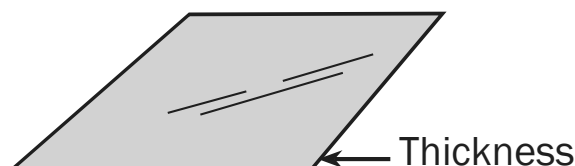
Product Availability

Thickness	Weight/sq.ft lbs
0.032	0.447
0.040	0.559
0.050	0.698
0.063	0.880
0.080	1.117
0.090	1.257
0.125	1.746

Typical Mechanical Properties

Property	Value
Tensile Strength psi	33,000
Yield Strength psi	28,000
Elongation (% in 2")	12
Min. 90° cold bend radius for .064	0
Brinell Hardness	60
Ultimate Shearing Strength psi	20,000

The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.



6061-T6 & 6061-T4 Aluminum Sheet

6061 is one the most versatile of the heat-treatable aluminum alloys. It has good formability and weldability, as well as high corrosion resistance. Additionally, 6061 offers a wide range of mechanical properties and can be fabricated by many of the commonly used techniques. 6061 is the most economical of the heat-treatable aluminums.

A.E.D. stocks 6061 sheet in two tempers: 6061-T6 & 6061-T4. Both meet Federal specification QQ-A-250/11. T4 maintains many of the strength characteristics of T6, but adds a great deal of forming capability. T4 is generally more formable than T6, and stronger than the non-heat treatable grades of aluminum (3003, 3052). Stocked in full sheets, 48" x 144"; cut pieces available. **The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.**

6061-T6 Availability

Thickness	Weight/sq.ft lbs
0.016	0.2258
0.032	0.4516
0.040	0.5645
0.050	0.7056
0.063	0.8891
0.080	1.1290
0.090	1.2700
0.125	1.7640
0.160	2.2580
0.190	2.6810
0.250	3.6270
0.375	5.4120
0.500	7.2180
0.750	10.800
1.000	14.100

6061-T6 Typical Mechanical Properties

Property	Value
Tensile Strength psi	45,000
Yield Strength psi	40,000
Elongation (% in 2")	12
1/2" Round	17
Min. 90° Cold Bend Radius for .064	1-2T
Brinell Hardness	95
Ultimate Shearing Strength psi	30,000

6061-T4 Availability

Thickness	Weight/sq.ft. lbs
0.032	0.452
0.040	0.565
0.050	0.706
0.063	0.889
0.080	1.129
0.090	1.270
0.125	1.764

6061-T4 Typical Mechanical Properties

Property	Value
Tensile Strength psi	35,000
Yield Strength psi	21,000
Elongation (% in 2")	22
1/2" Round	25
Min. 90 Cold Bend Radius for .064	1/2, 1-1/2T
Brinell Hardness	65
Ultimate Shearing Strength psi	24,000

Don't see it? Ask for it! We can get it.

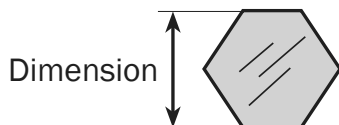
6061-T6 Aluminum Hex Bar

6061 is one the most versatile of the heat-treatable aluminum alloys. It has good formability and weldability, as well as high corrosion resistance. Additionally, 6061 offers a wide range of mechanical properties and can be fabricated by many of the commonly used techniques. 6061 is the most economical of the heat-treatable aluminums.

A.E.D. stocks 6061 in sheet, plate, bar, tube, and angle. Other items, such as treadplate, channel, pipe, etc. are available upon request. Meets Federal Specification QQ-A-200/8.

Product Availability

Diameter	Weight
0.375	0.144
0.500	0.255
0.625	0.398
0.750	0.574



Typical Mechanical Properties

Property	Value
Tensile Strength psi	45,000
Yield Strength psi	40,000
Elongation (% in 2")	12
1/2" Round	17
Min. 90 Cold Bend Radius for .064" thick	1-2T
Brinell Hardness	95
Ultimate Shearing Strength psi	30,000

The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

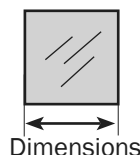
6061-T6 Aluminum Flat & Square Bar

6061 is one the most versatile of the heat-treatable aluminum alloys. It has good formability and weldability, as well as high corrosion resistance. Additionally, 6061 offers a wide range of mechanical properties and can be fabricated by many of the commonly used techniques. 6061 is the most economical of the heat-treatable aluminums.

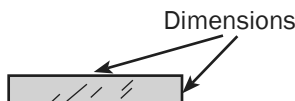
A.E.D. stocks 6061 in sheet, plate, bar, tube, and angle. Other items, such as treadplate, channel, pipe, etc. are available upon request. Meets Federal Specification QQ-A-200/8.

Typical Mechanical Properties

Property	Value
Tensile Strength psi	45,000
Yield Strength psi	40,000
Elongation (% in 2")	12
1/2" Round	17
Min. 90 Cold Bend Radius for .064" thick	1-2T
Brinell Hardness	95
Ultimate Shearing Strength psi	30,000



**SEE NEXT PAGE FOR
PRODUCT AVAILABILITY**



6061-T6 Flat & Square Bar Availability

Thickness	Width	Weight
0.125	0.500	0.0735
0.125	0.750	0.1103
0.125	1.000	0.1470
0.125	1.500	0.2205
0.125	2.000	0.2940
0.187	0.750	0.1654
0.187	1.000	0.2205
0.187	1.250	0.2756
0.187	2.000	0.4410
0.187	2.500	0.5513
0.250	0.750	0.2205
0.250	1.000	0.2940
0.250	1.250	0.3675
0.250	1.500	0.4410
0.250	2.000	0.5880
0.250	2.500	0.7350
0.250	3.000	0.8820
0.250	4.000	1.1760
0.250	6.000	1.7640
0.250	8.000	2.3520
0.250	10.000	2.9400
0.250	12.000	3.5280
0.375	0.500	0.2205
0.375	0.750	0.3308
0.375	1.000	0.4410
0.375	1.500	0.6615
0.375	2.000	0.8820
0.375	3.000	1.3230
0.375	4.000	1.7640
0.375	6.000	2.6460
0.375	8.000	3.5280
0.375	12.000	5.300
0.500	0.500	0.2940
0.500	0.750	0.4410
0.500	1.000	0.5880
0.500	1.250	0.7350
0.500	1.500	0.8820
0.500	1.750	1.0290
0.500	2.00	1.1760
0.500	2.500	1.4700
0.500	3.000	1.7640
0.500	3.500	2.0580
0.500	4.000	2.3520
0.500	5.000	2.9400
0.500	6.000	3.5280
0.500	8.000	4.7040
0.500	12.000	7.0560

Thickness	Width	Weight
0.625	1.000	0.7350
0.625	1.250	0.9188
0.625	2.000	1.4700
0.625	4.000	3.0000
0.750	0.750	0.6615
0.750	1.000	0.8820
0.750	1.250	1.1030
0.750	1.500	1.3230
0.750	2.000	1.7640
0.750	3.000	2.6460
0.750	4.000	3.5280
0.750	6.000	5.2920
0.750	8.000	7.0560
0.750	12.000	10.5800
1.000	1.000	1.1760
1.000	1.250	1.4700
1.000	1.500	1.7640
1.000	2.000	2.3520
1.000	3.000	3.5280
1.000	4.000	4.7040
1.000	5.000	5.8800
1.000	6.000	7.0560
1.000	8.000	9.4080
1.000	12.000	14.1100
1.250	1.500	2.2050
1.250	2.000	2.9400
1.250	6.000	8.8300
1.250	12.000	17.6400
1.500	1.500	2.6460
1.500	2.000	3.5280
1.500	2.500	4.4100
1.500	3.000	5.2920
1.500	6.000	10.5800
1.500	12.000	21.200
2.000	2.000	4.7040
2.000	2.500	5.8800
2.000	3.000	7.0560
2.000	4.000	9.4080
2.000	5.000	11.7600
2.000	6.000	14.1100
2.000	8.000	18.8200
2.500	2.500	7.3500
2.500	4.000	11.7600
2.500	6.000	17.6400
3.000	3.000	10.5800
3.000	4.000	14.1100
3.000	6.000	21.1700

6061-T6 Aluminum Round Bar

Product Availability

Diameter	Weight/ft. lbs	Diameter	Weight/ft. lbs
0.250	0.0577	1.750	2.8290
0.312	0.0902	2.000	3.6940
0.375	0.1299	2.250	4.6760
0.500	0.2309	2.500	5.7730
0.562	0.2922	2.750	6.9850
0.625	0.3608	3.00	8.3120
0.750	0.5205	3.250	9.7560
0.875	0.7071	3.500	11.3100
1.000	0.9236	3.750	12.9900
1.125	1.1690	4.000	14.7800
1.250	1.4330	4.500	18.7000
1.375	1.7460	5.000	23.0900
1.500	2.0780	5.250	25.4600
1.625	2.4390	6.000	33.2500

6061 is the most versatile of the heat treatable aluminums. It offers a wide range of mechanical properties and corrosion resistance. 6061 can be fabricated with many of the commonly used techniques.

The Typical Mechanical Properties listed on page 20 have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

Stocked in 12 foot lengths

6063-T5/T52 Extruded Square/Rectangular Tube

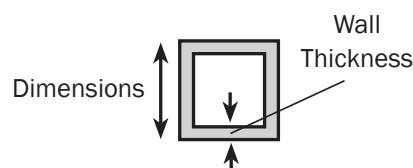
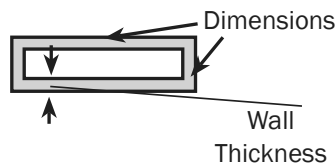
6063 Aluminum: architectural alloy, developed primarily for extrusions, relatively high tensile properties, excellent finishing characteristics, and high corrosion resistance.

Meets Federal Specification QQ-A-200/9

Stocked in lengths 21' 1"; cut pieces are available. Sizes besides those listed below are also available generally in full lengths.

Typical Mechanical Properties

Property	T52
Tensile Strength psi	27,000
Yield Point psi	21,000
Elongation (% in 2")	12
Brinell Hardness	60



O.D.	Wall Thickness	Weight/ft. lbs
.50 x 1.00	0.125	0.3638
.75 x .75	0.062	0.1057
.75 x .75	0.125	0.1998
1.00 x 1.00	0.062	0.1397
1.00 x 1.00	0.125	0.5093
1.00 x 1.50	0.125	0.6548
1.00 x 2.00	0.125	0.8003
1.00 x 3.00	0.125	1.091
1.25 x 1.25	0.125	0.6548
1.50 x 1.50	0.125	0.8003
1.50 x 2.00	0.125	0.9458
1.75 x 1.75	0.125	0.9458
2.00 x 2.00	0.125	1.091
2.00 x 3.00	0.125	1.382
2.00 x 4.00	0.125	1.673
2.00 x 5.00	0.125	1.964
2.00 x 6.00	0.125	2.255
3.00 x 3.00	0.125	1.673
3.00 x 6.00	0.187	3.819

6061-T6 Aluminum Round Tube

6061 is one the most versatile of the heat-treatable aluminum alloys. It has good formability and weldability, as well as high corrosion resistance. Additionally, 6061 offers a wide range of mechanical properties and can be fabricated by many of the commonly used techniques. 6061 is the most economical of the heat-treatable aluminums. A.E.D. stocks a large selection of 6061-T6 Round Tube. Meets Federal Specification QQ-A-200/8. Other sizes besides those listed here are available, generally in full lengths. 6061-T6 drawn tubes meet AMS spec WW-T-700/6.

Typical Mechanical Properties

Property	T0	T4	T6	T651
Tensile Strength psi	18,000	35,000	45,000	38,000
Yield Strength psi	8,000	21,000	40,000	35,000
Elongation (% in 2")	25	22	12	10

O.D.	Wall Thickness	I.D.	Weight/ft lbs
0.250	0.035	0.180	0.0281
0.250	0.049	0.152	0.0371
0.375	0.035	0.305	0.0449
0.375	0.058	0.259	0.0694
0.375	0.065	0.245	0.0755
0.438	0.125	0.197	0.1431
0.500	0.035	0.430	0.0612
0.500	0.049	0.402	0.0829
0.500	0.058	0.384	0.0962
0.500	0.065	0.370	0.1061
0.500	0.083	0.334	0.1298
0.500	0.120	0.260	0.1710
0.625	0.035	0.555	0.0775
0.625	0.049	0.527	0.106
0.625	0.058	0.509	0.1234
0.625	0.065	0.495	0.1367
0.625	0.125	0.375	0.2344
0.625	0.156	0.312	0.2744
0.750	0.049	0.652	0.1288
0.750	0.058	0.634	0.1506
0.750	0.065	0.620	0.1670
0.750	0.083	0.584	0.2077
0.750	0.125	0.500	0.2930
0.750	0.125	0.500	0.2930
0.750	0.188	0.375	0.3962
0.875	0.058	0.759	0.1777
0.875	0.065	0.745	0.1979
0.875	0.120	0.635	0.3398
1.000	0.035	0.930	0.1275
1.000	0.049	0.902	0.1754
1.000	0.058	0.884	0.2060
1.000	0.065	0.870	0.2295
1.000	0.125	0.750	0.4102
1.000	0.125	0.750	0.4102

O.D.	Wall Thickness	I.D.	Weight/ft lbs
1.000	0.250	0.500	0.7035
1.125	0.058	1.009	0.2321
1.125	0.065	0.995	0.2601
1.250	0.035	1.180	0.1601
1.250	0.049	1.152	0.2213
1.250	0.058	1.134	0.2601
1.250	0.065	1.120	0.2907
1.250	0.125	1.000	0.5275
1.250	0.250	0.750	0.9384
1.375	0.058	1.259	0.2865
1.375	0.125	1.125	0.5862
1.500	0.058	1.384	0.3137
1.500	0.065	1.370	0.3519
1.500	0.125	1.250	0.6448
1.500	0.250	1.000	1.1730
1.625	0.049	1.509	0.2907
1.625	0.058	1.375	0.3409
1.750	0.065	1.620	0.4131
1.750	0.125	1.500	.7618
2.000	0.065	1.870	0.4743
2.000	0.125	1.750	0.8874
2.250	0.065	2.120	0.5328
2.250	0.125	2.000	0.9996
2.250	0.250	1.750	1.8870
2.500	0.065	2.370	0.5916
2.500	0.125	2.250	1.1140
2.500	0.188	2.125	1.6420
2.500	0.250	2.000	2.1220
3.000	0.065	2.870	0.7140
3.000	0.125	2.750	1.3480
3.500	0.125	3.250	1.5830
4.000	0.065	3.870	0.9595
6.000	0.065	5.870	1.4450
6.000	0.125	5.750	2.7540

6061 & 6063 Aluminum Angle

6061 Aluminum: good formability, weldability, high corrosion resistance; the most economical of the heat-treatable aluminums.

6061 Angles are generally stocked in 25-Foot Lengths. Cut pieces are available; and other sizes are available upon request in full lengths. Meets Federal Specification: QQ-A-200/16

6063 Aluminum: architectural alloy, developed primarily for extrusions, relatively high tensile properties, excellent finishing characteristics, and high corrosion resistance.

6063 Angles are generally stocked in 16-Foot Lengths. Cut pieces are available; and other sizes are available upon request in full lengths. Meets Federal Specification: QQ-A-200/9



6063 Typical Mechanical Properties

Property	T52
Tensile Strength psi	27,000
Yield Point psi	21,000
Elongation (% in 2")	12
Brinell Hardness	60

The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, **NOT FOR DESIGN PURPOSES.**

6061 Typical Mechanical Properties

Property	T6/T651
Tensile Strength psi	45,000
Yield Point psi	40,000
Elongation (% in 2")	17
Brinell Hardness	95

6063 Angle

Size	Thickness	Weight/ft lbs
.50 x .50	0.065	0.0682
.75 x .75	0.065	0.1057
.75 x .75	0.125	0.1998
1.00 x 1.00	0.062	0.1397
1.00 x 1.00	0.125	0.2716
1.00 x 1.50	0.125	0.3453
1.00 x 2.00	0.062	0.2180
1.00 x 2.00	0.125	0.4181
1.50 x 1.50	0.063	0.2190
1.50 x 1.50	0.125	0.4181

6061 Angle

Size	Thickness	Weight/ft lbs
.75 x .75	0.125	0.2009
1.00 x 1.00	0.125	0.2744
1.00 x 1.00	0.187	0.3998
1.50 x 1.50	0.125	0.4234
1.50 x 1.50	0.187	0.6184
2.00 x 2.00	0.125	0.5860
2.00 x 2.00	0.187	0.8506
2.00 x 2.00	0.250	1.1100
3.00 x 3.00	0.250	1.6840

7075-T6 Aluminum Plate

7075 Aluminum: one of the highest strength aluminum alloys used for highly stressed parts where strength is extremely critical, good machinability, excellent strength-to-weight ratio, only average corrosion resistance; improve resistance is normally obtained by cladding parts. Sometimes used in place of 2024. Grain direction should be considered for high stress applications. 7075-T6 bare meets QQA-250/12 and 7075-T6 Alclad meets QQA-250/13.

Typical Mechanical Properties

Property	7075-0	7075-T6, T651	7075-0 Alclad	7075-T6, T651 Alclad
Tensile Strength psi	33,000	83,000	32,000	76,000
Yield Strength psi	15,000	73,000	14,000	67,000
Elongation (% in 2")	17	11	17	11
1/2" Round	16	11	--	--
Min. 90 Cold Bend Radius for .064" Thick	0-1T	4-6T	--	--
Brinell Hardness	60	150		
Ultimate Shearing Strength psi	22,000	48,000	22,000	46,000

Product Availability

Thickness	Weight/sq.ft lbs
0.250	3.636
0.375	5.454
0.500	7.272
0.750	10.908

The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

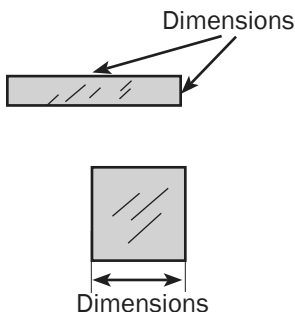
7075-T6 Aluminum Flat & Square Bar

7075 Aluminum: one of the highest strength aluminum alloys used for highly stressed parts where strength is extremely critical, good machinability, excellent strength-to-weight ratio, only average corrosion resistance; improve resistance is normally obtained by cladding parts. Sometimes used in place of 2024. A.E.D. typically stocks 7075 Round Bars in cold finished (T651), which meets QQ-A-225/9. Extruded form (T6511), which meets Federal Specification QQ-A-200/11, may also be available on request. Generally, 7075 is not a weldable alloy.

Product Availability

Thickness	Width	Weight/ft lbs
0.500	1.000	0.606
0.750	1.000	0.909
0.750	1.500	1.363
0.750	2.000	1.818
0.750	3.000	2.727
0.750	4.000	3.636
0.750	6.000	5.454
1.000	1.000	1.212
1.000	1.500	1.818
1.000	2.000	2.424
1.000	3.000	3.636

Thickness	Width	Weight/ft lbs
1.000	4.000	4.848
1.250	1.500	2.274
1.250	2.000	3.030
1.250	2.500	3.787
1.250	4.000	6.059
1.500	2.000	3.636
1.500	2.500	4.545
2.000	2.000	4.848
2.000	4.000	9.696
2.500	4.000	12.120

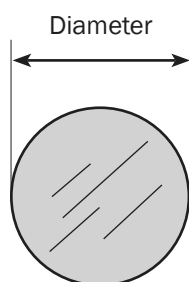


7075-T6 Aluminum Round Bar

7075 Aluminum: one of the highest strength aluminum alloys used for highly stressed parts where strength is extremely critical, good machinability, excellent strength-to-weight ratio, only average corrosion resistance; improve resistance is normally obtained by cladding parts. Sometimes used in place of 2024. A.E.D. typically stocks 7075 Round Bars in cold finished (T651), which meets QQ-A-225/9. Extruded form (T6511), which meets Federal Specification QQ-A-200/11, may also be available on request.

See top of page 25 for typical mechanical properties table. The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

Product Availability



Diameter	Weight/ft lbs
0.375	0.1339
0.500	0.2380
0.625	0.3718
0.750	0.5354
1.000	0.9519
1.125	1.2050
1.250	1.4870
1.375	1.8000
1.500	2.1420
1.625	2.5100
1.750	2.9150
2.000	3.8050

Diameter	Weight/ft lbs
2.250	4.8190
2.500	5.9490
2.750	7.1990
3.000	8.5670
3.500	11.6550
3.750	13.3970
4.000	15.2230
4.250	17.1700
4.500	19.2260
5.000	23.7600
6.000	34.2510

Lead Sheet

Lead is a soft, malleable metal material with high corrosion resistance, generally used to add weight. Its mechanical properties are rather low in comparison to other metals when used in a structural application. Meets ASTM B29.

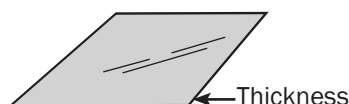
A.E.D. offers common lead sheet, which is essentially 99.9% pure, in 24" x 24" sheets in .125" and .250" only. It is also sometimes referred to as "Lead Ballast."

Product Availability

Size	Approx. Weight per sheet
.125 x 24 x 24	30 lbs
.250 x 24 x 24	60 lbs

Typical Mechanical Properties

Property	Value
Tensile Strength psi	1740
Yield Strength psi	7978
Elongation (% in 2")	30
Hardness Brinell/Rockwell HR	3.2-4.5



Sold in Full Sheets
(24" x 24") ONLY.

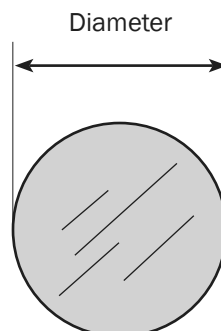
6AL-4V Titanium Round Bar

Titanium is an amazingly lightweight metal, approximately 60 percent of the density of steel, with outstanding corrosion resistance. Its unprecedented strength and high melting point of more than 3,000° F make it an obvious material choice for aircraft and motorsports industries. Please make sure you understand the unique characteristics of welding and fabricating Titanium materials. The buyer is responsible to know their application. 6AL-4V is typically supplied in the annealed condition, per ASTM B348 or AMS 4928.

Typical Mechanical Properties

Property	Value
Tensile Strength psi	130,000
Yield Strength psi	120,000
Elongation (% in 2")	10*
Reduction of area min.	25

*Elongation for materials under .025" may be obtained only by negotiation



**Call for
Product Availability
& Dimensions**

Commercially Pure Titanium Sheet Grade 2

CP Grade 2 Commercially Pure Titanium, or "CP Gr2," is one of the most widely used titanium grades in all product forms. Sometimes referred as the "garden variety grade," CP Grade 2 provides an excellent balance of moderate strength and reasonable ductility. Additionally, it offers high corrosion resistance in highly oxidizing and mildly reducing environments, including chlorides. CP Grade 2 is typically supplied in the annealed condition.

It is important to understand that there are grades of titanium for aerospace and for non-aerospace applications. Aerospace grades meet "AMS" specifications and non-aerospace grades meet ASTM specs. The same material may be approved for one type of application, but not necessarily for others. Our stock of CP Grade 2 sheets are the non-aerospace grade, although we can and often supply the aerospace grades by special order. It should also be noted that "CP Grade 2" is not the same as "CP-2", which is an aerospace grade. Our stock of titanium sheets are commonly produced in 48" x 120" dimensions. The best pricing is always when you order full sheets, which can be cut for economical shipping methods. AED also offers "cut-to-size" pieces. This material meets ASTM B265.

Product Availability

Thickness	Weight/sq.ft lbs
0.020	0.4493
0.028	0.6500
0.035	0.8250
0.050	1.1750
0.063	1.4750
0.078	1.8500

Typical Mechanical Properties

Property	Value
Tensile Strength psi	50,000
Yield Strength psi	40,000 min - 65,000 max
Elongation (% in 2")	20
Reduction of area min.	30

The Typical Mechanical Properties listed have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

4340 Chrome Moly Round Bar

4340 is nickel-chromium-molybdenum alloy steel. It is ideal for highly stressed parts, and it can attain much deeper hardenability than 4100 series steel. 4340 also has excellent non-distorting properties for an alloy steel, with high fatigue/tensile ratio and the capability to maintain strength, ductility, and toughness at relatively high temperatures. Meets MIL-S-5000, AMS-6415, and others. A.E.D. stocks several sizes of 4340 round bar, generally in the cold finished, normalized and tempered condition. Other sizes and conditions, as well as hex, flat and square bar may also be available upon request.

**Call for
Product Availability
& Dimensions**

Typical Mechanical Properties

Property	Value
Tensile Strength psi	110,000
Yield Strength psi	66,000
Elongation (% in 2")	23
Reduction of Area (%)	49
Brinell Hardness	197

The Typical Mechanical Properties listed on this page have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

300M Steel Alloy Round Bar (E4340 Modified)

300M is a "Modified 4340," with the addition of vanadium and a higher silicon content, it offers a combination of toughness and ductility at high-strength levels. 300M is a deep hardening steel with excellent torque properties, high fatigue and creep characteristics, and maintains its strength at moderately high temperatures. Meets MIL-S-8844, and others. Stocked in 11-13 foot random lengths; cut pieces available. Other sizes may be available on request.

Typical Mechanical Properties

Property	Value
Tensile Strength psi	280,000 min
Yield Point psi	230,000 min
Elongation % in 2"	7
Hardness	RB 311 max

**Call for
Product Availability
& Dimensions**

1144 Stressproof™ CF Round Bar

1144 Stressproof is a carbon-manganese free machining grade, severely cold worked to produce high tensile properties. It is a specially treated grade to relieve the stresses set up by the cold working, and therefore reducing warpage tendencies after machining, which is common in ordinary cold drawn bars. Meets ASTM A311, Class B. Stressproof™ is a registered trademark of the LaSalle Steel Co. Stocked in 11-13 foot random lengths; cut pieces available. Other sizes may be available on request.

**Call for
Product Availability
& Dimensions**

Typical Mechanical Properties

Property	Thru 2"	Greater than 2"-3"	Greater than 3"
Tensile Strength psi	115,000	115,000	115,000
Yield Point psi	100,000	100,000	100,000
Elongation (% in 2")	8 min	8 min	7 min
Reduction of area %	25 min	20 min	20 min
Rockwell C Hardness	26 min	25 min	24 min

"E.T.D." 150™ CF Alloy Round Bar

ETD150 is 4100 H modified alloy steel, with high tensile and yield strength properties. Produced by Elevated Temperature Drawing, problems of warpage and distortion, as well as residual stresses from cold working with a controlled-die practice, are reduced. Welding may be difficult, unless sections are preheated first, then stress-relieved afterwards. Meets AMS 6378. The "Elevated Temperature Draw process" and "e.t.d. 150"™ are patented/trademarks by LaSalle Steel Co., producers of the steel. Stocked in 11-13 foot random lengths; cut pieces available. Other sizes may be available on request.

**Call for
Product Availability
& Dimensions**

Typical Mechanical Properties

Property	Value
Tensile Strength psi	150,000 min
Yield Point psi	130,000 min
Elongation (% in 2")	10
Reduction of Area (%)	37
Brinell Hardness	302 min

The Typical Mechanical Properties listed on this page have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

17-4 PH Stainless Steel Round Bar

17-4 PH is in the "Precipitation Hardening" (iron-chromium-nickel) group, which develops very high mechanical properties. Features include high corrosion resistance and it can be heat-treated to high strength levels. Meets AMS 5643. A.E.D. stocks several sizes of 17-4 PH round bar. Stocked in 11 to 13-foot random lengths; cut pieces available. Other sizes, as well as flat, hex and square bar also available upon request.

**Call for
Product Availability
& Dimensions**

Typical Mechanical Properties

Average or Room Temp.	Annealed
Tensile Strength psi	150,000
Yield Point psi	110,000
Elongation (% in 2")	10
Reduction of Area (%)	40
Brinell Hardness	320

304 Stainless Steel Round Bar

304 is in the "Austenitic" group (or chrome-nickel series) of stainless steels. It is not hardenable by heat-treatment and it is not magnetic. Hardness is accomplished by cold-working, which may create some magnetism). Tougher and more ductile than most ordinary steels, 304 (and other austenitic grades), also has excellent mechanical properties and weldability and good corrosion resistance. 304 stainless bars meet Federal Specification ASTM A276 and others. Stocked in 11 to 13-foot random lengths; cut pieces available.

Product Availability

Diameter	Weight/ft lbs	Diameter	Weight/ft lbs
0.187	0.094	0.625	1.044
0.250	0.1671	0.750	1.504
0.375	0.3759	1.000	2.673
0.437	0.5116	1.250	4.176
0.500	0.6682	1.375	5.053

Typical Mechanical Properties

Property	Value
Tensile Strength psi	85,000
Yield Point psi	35,000
Elongation (% in 2")	50
Reduction of Area %	70
Brinell Hardness	150

304 Stainless Steel Flat & Square Bar

304 is in the "Austenitic" group (or chrome-nickel series) of stainless steels. It is not hardenable by heat-treatment and it is not magnetic. Hardness is accomplished by cold-working, which may create some magnetism). Tougher and more ductile than most ordinary steels, 304 (and other austenitic grades), also has excellent mechanical properties and weldability and good corrosion resistance. Meets Federal Specification ASTM A276 and others. Stocked in 11 to 13-foot random lengths; cut pieces available.

Product Availability

Thickness	Width	Weight/ft lbs
0.125	1.000	0.4254
0.125	1.500	0.6381
0.125	2.000	0.8508
0.125	3.000	1.276
0.187	1.000	0.6381

Thickness	Width	Weight/ft lbs
0.250	1.000	0.8508
0.250	2.000	1.702
0.250	3.000	2.552
0.750	0.750	1.914
1.000	1.000	3.403

Typical Mechanical Properties

Properties	304 Bar
Tensile Strength psi	85,000
Yield Point psi	35,000
Elongation (% in 2")	55
Brinell Hardness	150

The Typical Mechanical Properties listed on this page have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

304 Stainless Steel Square & Rectangular Tube

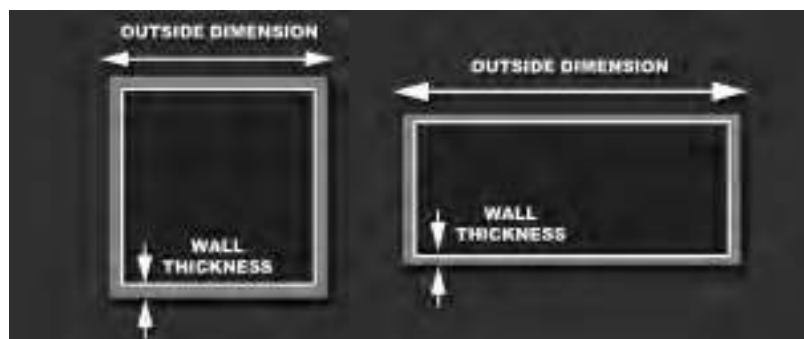
304 stainless steel square and rectangular tube meets Federal Specification ASTM A544 and others. Stocked in 20 foot random lengths; cut pieces available.

Product Availability

Size	Wall Thickness	Weight/ft lbs
.500 x 1.00	0.065	0.6055
1.00 x 1.00	0.065	0.8265
1.00 x 2.00	0.065	1.2690
1.50 x 1.50	0.065	1.2680
2.00 x 2.00	0.065	1.7100

Typical Mechanical Properties

Property	304 Annealed	304L Annealed
Tensile Strength psi	85,000	80,000
Yield Strength	35,000	30,000
Elongation (% in 2")	55	55
Rockwell Hardness	RB 85	RB 75



304 & 201 Stainless Steel Round Tube

A.E.D. stocks several sizes of Stainless Steel round tube and square and rectangle tube. The round tubes are supplied in Grades 304 and 201 and could be welded or seamless (based on availability). The 304 tubes can meet several specifications including ASTM A269, A249, A213 or others, depending on welded, or seamless, as well as certain other conditions. As is common in the industry, inventory can vary depending on availability. Other sizes and specifications are available upon request. A.E.D. stocks four sizes of Grade 201 Super Buffed welded round tube, all of which are distinguished by a rich polished finish that has the appearance of chrome. They are typically used for "nerf bar" and "bumper" applications, as well as many other uses. The 201 tubes meet ASTM A554. 201 is stronger than a 304 for typical motorsport applications.

304 Product Availability

	O.D. IN	Wall Thickness	I.D. IN	Weight/ft lbs
	0.187	0.028	0.131	0.0478
	0.187	0.035	0.117	0.0572
	0.250	0.028	0.194	0.0664
	0.250	0.035	0.180	0.0804
	0.375	0.028	0.319	0.1038
	0.375	0.035	0.305	0.1271
W	0.500	0.065	0.370	0.3020
W & S	1.000	0.065	0.870	0.6491
W & S	1.000	0.120	0.760	1.128
W	1.250	0.065	1.120	0.8226
W	1.500	0.065	1.370	0.9962
W	2.000	0.065	1.870	1.343
W	2.000	0.083	1.834	1.699
W	2.000	0.120	1.760	2.409
W	2.500	0.065	2.370	1.690
W	3.000	0.065	2.870	2.037
W	3.000	0.120	2.760	3.691
W	4.000	0.065	3.870	2.732
W	4.000	0.083	3.834	3.472
W	6.000	0.083	5.834	5.245
W	6.000	0.120	5.760	7.536

201 Product Availability

	O.D. IN	Wall Thickness	I.D. IN	Weight/ft lbs
W SB	0.625	0.065	0.495	0.3888
W SB	0.750	0.065	0.620	0.4755
W SB	0.875	0.065	0.754	0.5623
W SB	1.000	0.065	0.870	0.6491

304 Typical Mechanical Properties

Property	304 Annealed	304L Annealed
Tensile Strength psi	85,000	80,000
Yield Point psi	35,000	30,000
Elongation (% in 2")	55	55
Rockwell Hardness	RB 85	RB 75

The Typical Mechanical Properties listed on this page have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

- All tube is seamless unless noted with "W," in which case tube is welded.
- **W & S** - Indicates the tube is available either welded & seamless
- **W SB** - Indicates a welded super buffed tube, polished to a superior finish with a true chrome plated appearance. Only available in 201 grades.

201 Typical Mechanical Properties

Property	Value
Tensile Strength psi	101,000
Yield Strength psi	43,600
Elongation (% in 2")	56
Rockwell Hardness	RB 85

304 & 430 Stainless Steel Sheet

Stocked in full sheets, generally 48 x 120; cut pieces available.

A.E.D. stocks 304 stainless sheet in a variety of thicknesses, primarily in the #4 finish, which is a polished or “brushed” finish. The “polished” finish does NOT refer to a “mirror-type” finish. See 430 Bright Annealed (below) for “mirror-like” finish. Mill finish available on thicker gages. Meets ASTM A240 and others.

The Typical Mechanical Properties listed on this page have been compiled from a variety of sources. Information is deemed reliable, but not guaranteed. Data is provided for information only, NOT FOR DESIGN PURPOSES.

304 Product Availability

Grade	Finish	Thickness	Weight/ft lbs
304	Mill Finish	0.024	1.008
304	Polished	0.036	1.512
304	Polished	0.048	2.016
304	Polished	0.063	2.520
304	Mill Finish	0.120	5.040

Typical Mechanical Properties

Property	304 ANN
Tensile Strength psi	100,000
Yield Point psi	40,000
Elongation (% in 2")	40
Rockwell Hardness	RB 85

Typical Mechanical Properties

Property	430 ANN
Tensile Strength psi	70,000-90,000
Yield Point psi	40,000-55,000
Elongation (% in 2")	30-25
Rockwell Hardness	RB 80-90

430 Product Availability

Grade	Finish	Thickness	Weight/ft lbs
430	Bright Annealed	0.024	1.008
430	Bright Annealed	0.036	1.512
430	Bright Annealed	0.048	2.016
430	Bright Annealed	0.063	2.520



Don't see it? Ask for it! We can get it.

4130 Threaded Tube Adapters

Sometimes referred to as "tube ends," "bungs" or "spuds," these "weld-in" threaded tube adapters are CNC-machined from only 4130 alloy steel.

America's top chassis builders have been using them for many years. Not only are they strong and consistent, with a high quality finish, they make a perfect complement to our Rod Ends, tubing (4130, Docol & MS DOM) and Hand Tap products.

A.E.D.'s threaded tube ends are available with either right hand or left hand threads - PLEASE SPECIFY!



		THREAD SIZE											
		10-32	1/4-28	5/16-24	3/8-24	7/16-20	1-1/2-20	5/8-18	3/4-16	7/8-14	1-12	1-14	1-1/4-12
T U B E S I Z E	3/8 X .058	X											
	1/2 X .058		X	X									
	5/8 X .058			X	X	X							
	3/4 X .058			X	X	X							
	3/4 X .065			X	X	X							
	7/8 X .058				X	X	X						
	7/8 X .065				X	X	X						
	7/8 X .083				X	X	X						
	1" X .058				X	X	X	X					
	1" X .065				X	X	X	X					
	1" X .083				X	X	X	X					
	1" X .085				X	X	X	X					
	1-1/8 X .058						X	X					
	1-1/8 X .065						X	X					
	1-1/8 X .083						X	X	X				
	1-1/8 X .095						S	S	S				
	1-1/4 X .058						S	S	S				
	1-1/4 X .065							S	S				
	1-1/4 X .095						S	X	X				
	1-1/4 X .120						S	X	X				
	1-3/8 X .065							X	X	S			
	1-3/8 X .120							X	X	S			
	1-1/2 X .065							S					
	1-1/2 X .095							X	X				
	1-1/2 X .120								X	S	S	S	
	1-1/2 X .250								S	S			
	1-5/8 X .083								S-R	S			
	1-5/8 X .120								S				
	1-3/4 X .120								X	S		S	S
	1-3/4 X .250								X	S		S	
	2" X .250												S

TUBE SIZE refers to OD x Wall Thickness.

X
S
S-R

Most of these parts are typically kept in stock

These parts are available by special order

Available by special order and produced in Right Hand Thread only

Check
out our
Rod Ends
See page
45-46.

4130 Weld-In Clevises

A.E.D.'s weld-in slot clevises are machined from 4130 alloy steel and are available for a variety of tube sizes, wall thicknesses and cross bolt sizes. They have the same high quality as our tube adapters. Typical applications for these clevises include wheelie bars, wing struts or supports, seat mounts, battery mounts, parachute mounts and many other mounting needs.

		PIN OR BOLT SIZE						
		3/16" Bolt	1/4" Bolt	5/16" Bolt	3/8" Bolt		1/2" Bolt	
T U B E S I Z E	SLOT WIDTH	1/8"			3/16"		1/4"	5/16"
	3/8 x .058	x						
	1/2 x .058		x					
	5/8 x .058			x				
	3/4 x .058				x	x		
	7/8 x .058					x		
	1 x .058				x	x	x	
	1-1/8 x .058				x	x		
	1-1/8 x .083					x		
	1-1/4 x .058					x		
					1-1/2 x .065			x
					1-1/2 x .120			x



To determine which size of clevis you require, please match up the size of the TUBE you need to weld in to, and then the width of the SLOT, and then the size of the BOLT.

4130 & Stainless Threaded Clevises

These threaded clevises feature rolled threads for a stronger and better fit.

4130 Alloy Steel, Zinc plated

3/8-20 thread x 5/16" hole x 3/16" slot threaded clevis

1/2-20 thread x 3/8" hole x 1/4" slot threaded clevis

303 Stainless Steel, rounded slot base for additional strength

10-32 thread x 3/16" hole x 1/8" slot threaded clevis

1/4-28 thread x 3/16" hole x 1/8" slot threaded clevis



Please specify **right** or **left** hand thread.

**Check out
Tube Adapters
on page 33**

Steel Sleeves

Save time and money with our ready for assembly steel sleeves! All in stock sleeves are manufactured from 1020 mild steel seamless tube. Other sizes and materials are available. Please call for a quote.

Standard Sleeves	
1/2" OD x .312"	ID x 1" Long
1/2" OD x .312"	ID x 1 1/8" Long
1/2" OD x .312"	ID x 1 1/4" Long
1/2" OD x .312"	ID x 1 3/8" Long
1/2" OD x .312"	ID x 1 1/2" Long
5/8" OD x .385"	ID x 1 3/16" Long
5/8" OD x .385"	ID x 1 1/2" Long
5/8" OD x .385"	ID x 1 3/4" Long
5/8" OD x .385"	ID x 2" Long
3/4" OD x .510"	ID x 1 3/4" Long
3/4" OD x .510"	ID x 2" Long

Threaded Sleeves
5/8" OD x 3/8-24 x 1 5/8" Long
3/4" OD x 1/2-20 x 1" Long
3/4" OD x 1/2-20 x 1 3/4" Long
3/4" OD x 1/2-20 x 2" Long
3/4" OD x 1/2-20 x 2 3/4" Long
3/4" OD x 1/2-20 x 3 1/4" Long



Taps

Thread your own tubing and bar stock!

Aluminum, steel, 4130, stainless and much more! We generally have left (can be harder to find) and right hand taps in stock. Other sizes may be available upon request.

Rod End Tube Tap Guide



Tap Sizes
10-32
1/4"-28
5/16"-24
3/8"-24
7/16"-20
5/8"-18
3/4"-16

Tube	Thread
7/16" (.437") x .120"	1/4" (.250")
1/2" (.500") X .083"	7/16" (.437")
1/2" (.500") X .120"	5/16" (.312")
5/8" (.625") X .120"	7/16" (.437")
5/8" (.625") X .155"	3/8" (.375")
3/4" (.750") X .188"	7/16" (.437")

These are some of the most common conversions. Please be sure that you completely understand your application and dimensions.

FK Rod Ends & Bearings

Since 1997, A.E.D. Motorsport Products has been a stocking distributor for FK Rod Ends and Bearings, an American manufacturer of high quality bearing products for more than 20 years.

A.E.D. is proud to offer this exceptional product line to both our Motorsport, industrial and aviation (FK rod ends are not certified) customers. Previous catalog editions have featured an abbreviated listing of FK's products, however with the growing popularity of the Internet, we have posted the entire FK catalog on our web-site, complete with sizes and load ratings.

A brief listing of the various Rod End and Bearing products follows, along with a guide to help you select the appropriate series for your application.

Please visit our web-site to view the online catalog: <http://www.aedmotorsport.com/catalog/categories/fk-rod-ends-spherical-bearings>

ROD ENDS SERIES

Commercial/Industrial Rod Ends

CM/CF (2-piece Metal-to-Metal); CMX (2-piece Metal-to-Metal alloy); SCM/SCF (2-piece Metal-to-Metal Stainless Steel); and Metric 2-piece Metal-to-Metal Steel & Stainless; HCM (2-piece Metal-to-Metal High Misalignment); etc.

Precision Series Rod Ends

JM/JF (3-piece, Alloy race); JMX/JFX (3-piece High Strength Alloy); ALJM/ALJF (3-piece Aluminum); SJM/SJF (3-piece Stainless Steel); PMFT (3-piece Performance Racing); HJMX (3-piece High Strength, High Misalignment); RJM/RJF (3-piece Precision Decorative Chrome); etc.

Extra Strength - Heavy Duty Shank

RSM/RSM-T (3-piece Low Carbon Steel); RSMX/RSMX-T (3-piece Alloy); SRSM-T (3-piece Stainless Steel); ALRSM (3-piece Aluminum); HRSMX-T (3-piece High Strength Alloy); etc.

Spherical Bearings

COM/COM-H (Commercial Series, low carbon steel); HIN-T (High Misalignment alloy); FKS (Precision Narrow Series Alloy); FKSSX-T/ FKSSX-TV/PFKSSX-T (Precision Narrow series, Stainless); WSSX-T/ WSSX-TV (Wide Series, Stainless); K (Special Purpose Series)

Special Products

Steel and Aluminum Jam Nuts, Studs, Solid Rod Ends, Clevises, Adjuster Ladders

THREE RULES FOR ROD ENDS IN RACING

1. When in doubt, always step up to the next strongest part.
2. Racing on pavement has high "G" loading, and all suspension parts should use Chrome Moly rod ends (these are the series with an "X" in their heading; ex: JMX8).
3. Dirt racing is not as hard on FK parts as pavement, and unless there is a past problem, a "CM" or "JM" series is fine to start with.



**Don't forget
about the
Rod End Seals!**

FK Rod Ends & Bearings

FK Rod Ends & Bearings offers six grades of bearing products for racing applications:

General Purpose – 2-piece style CM / CF; also available 2-pc Chrome Moly CMX

The ball rides on a formed portion of the mild steel body. Fairly high misalignment capability and good strength/cost ratio. Popular for linkage.

General Purpose – 3-piece style JM / JF

Three-piece style features a heat-treated race for the ball to ride on. Less misalignment capability than the CM / CF series. Similar in strength to the CM / CF series.

Specialty Racing Aluminum – 3-piece style ALJM / ALRSM

Made from 7075-T6 Aluminum, the ball rides on a heat-treated race, excellent for sprints and midgets, designed to save chassis in the event of a crash.

High Strength Chrome Moly or 17-4 PH Stainless Steel – 3-pc style JMX / JFX / PMX / SJM

These styles are very strong due to the use of heat-treated alloy steel, 52110 bearing steel ball. Rides on a hardened race for long life.

General Purpose Oversize Body – 3-piece style RSM

Oversize body gives extra strength; mild steel material allows a low cost part. The ball rides on a heat-treated race for longer life.

High Strength Chrome Moly or 17-4 PH Stainless Steel, oversize body – 3-pc style RSMX / SRSM

Strongest parts available due to the use of a body that is one size larger than the bore. Material is heat-treated 4130 Chrome Moly, 52100 bearing steel ball rides on a heat-treated alloy race for long life.

All of the rod end series above feature a 52100 bearing steel ball that is precision-ground and hard-chrome plated.

If desired, most FK Bearing rod ends may be lined with aircraft-grade TEFLON between the ball and the race for a tighter initial fit and longer life due to the self-lubricating properties of the Teflon material. Some of the rod ends come standard with this liner – please consult the catalog or our web-site for final determination.

For further assistance in part selection, please contact A.E.D. Motorsport Products.

We will make every effort to guide you in making the correct selection for your application.

<u>TYPE OF RACE CAR</u>	<u>Sprint Car, Midget, Mini Sprint, Micro Sprint, TQ Midget</u>
Common Terms	Suggested Part
Tie Rod	CM / ALRSM / RSM
Drag Link	CM / ALRSM / RSM
Radius Rod	CM / ALRSM / RSM
Rear Torsion Arms	RSM / RSMX
Wing Sliders	CM

Open wheel racing is a “rough-and-tumble” sport. Aluminum “ALRSM” bearings are often used because of the weight reduction, and in the case of a crash, the rod end fails and does not tear up the frame of the race car.

NOTE: The following guide is a suggestion only, it is not intended as a recommendation. Your application may be different. Suggestions provided by FK Bearings.

The user accepts full responsibility for part determination. A.E.D. and FK cannot determine applications for its products.

For further assistance in part selection, please contact A.E.D. Motorsport Products. We will make every effort to guide you in making the correct selection for your application.

FK Rod Ends & Bearings

TYPE OF RACE CAR Dwarf Car, Legends

Common Terms

Front Control Arms or "A" Arms, Tie Rods

Suggested Part

CM / CMX

Rear Arms, 3-Link, Track Bar

CMX / JMX

These cars are light, simple and have lots of power per pound of weight. Their wheels stick out past the fenders (or no fenders) and the level of experience is usually lower. If you break a rod end on the front of the car, the car stops because you cannot drive it; break a rod end on the rear, and the car usually crashes into the wall. Refer to the "Three rules of Rod Ends" on Page 36.

TYPE OF RACE CAR Stock Car, Late Model, I.M.C.A. Modifieds, Sportsman

Common Terms

"A" Arms, Front Control Arms

Suggested Part

CM / CMX / JM / JMX

Rear Arms, Track Bar, "J" Bar, Panhard Bar,

Watts Link, Torque Link

CM / CMX / JMX

These cars are sometimes heavier and have fenders (except IMCA). They tend to rub together rather than bang together, and do not seem to be too hard on rod ends. If a rod end fails in the front of the car, it USUALLY just stops . . . if a rear rod end breaks, the car turns right into the wall. Refer to the "Three Rules of Rod Ends" on Page 36.

TYPE OF RACE CAR S.C.C.A. Road Racer, Improved Touring, Trans-Am, Autocross, Solo 1, Sports Racer, GT Sedan

Common Terms

"A" Arms, Front Control Arms

Suggested Part

JMXT

Rear Arms, Track Bar, "J" Bar, Panhard Bar,

Watts Link, Torque Link

JMXT

These cars are all road racers on pavement. The racing is amateur (no money), and the mechanical aptitude of the owners is lower as they are usually business professionals. The routine maintenance consists of washing the car and hauling it to the next event. They need a strong, long lasting part.

TYPE OF RACE CAR Drag Racer, Stock, Super Stock, Pro Stock, Super Gas, Competition Eliminator, Dragster

Common Terms

4-Link, Cross Link

Tie Rod, Strut Rod

Suggested Part

JMXT / RSMXT

JMXT / RSMXT

These cars all have huge tires and the loads on the suspension at the start are tremendous. They need the strongest part FK makes. In drag racing, repeatability is the key to winning, so most all racers want a part that will last, thus a Teflon liner.

TYPE OF RACE CAR Off-Road, Single Seater, Two Seater, Buggy, Baja Bug

Common Terms

Trailing Arm, "A" Arm

Tie Rod

Suggested Part

JMXT / HRSMXT / RSMXT

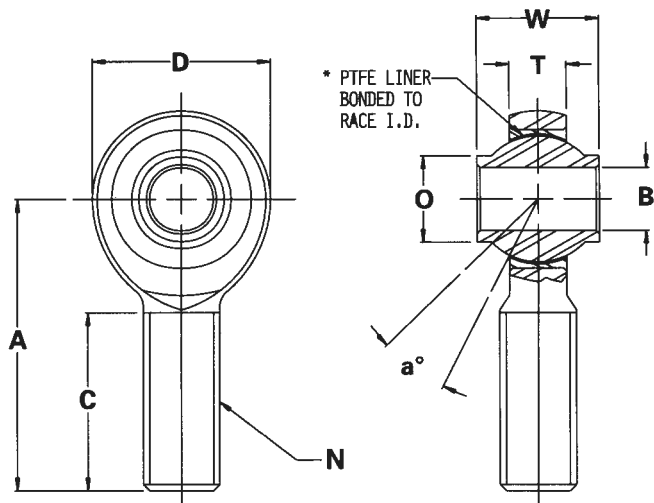
JMXT / HRSMXT / RSMXT

This type of racing through the desert is very HARD on equipment. Replacement parts are carried on the car or are very far away in various pits. They need the strongest part possible, plus the protection of Teflon. The dirt in the desert is quite abrasive, and the Teflon seems to help the wear factor. After each race, the cars are completely disassembled and every part is inspected. Suspect parts at the time are replaced.



See detailed current listing on our website or call for a complete catalog.

CM/CF 2-piece, Metal to Metal Steel



Notes: for grease fittings add "Z" to suffix

- CM6Z

For studs add "Y" to suffix

- CM6Y

For Teflon liner add "T" to suffix

- CM12T

* Grease fittings are not supplied on these sizes

** Tolerance variation: "D," "A" are +/- .020

Male rod ends load ratings based on no lubricating fitting

For load ratings with lubricator, please contact A.E.D. Motorsport Products

Note: female rod ends available in most sizes and grades.

Other products available:

- Studed rod ends: call for details
- Spherical bearings
- Solid rod ends
- Clevis ends

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0025 -0.0005	+0.010 -0.010	+0.005 -0.005	REF.	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
CM3*	CML3*	.1900	.625	.312	.234	.437	1.250	10-32	.750	17	1,210	.03
CM4*	CML4*	.2500	.750	.375	.250	.500	1.562	1/4-28	1.000	21	2,225	.04
CM5*	CML5*	.3125	.875	.437	.312	.625	1.875	5/16-24	1.250	17	3,600	.07
CM6	CML6	.3750	1.000	.500	.359	.719	1.938	3/8-24	1.250	19	5,100	.11
CM7	CML7	.4375	1.125	.562	.406	.812	2.125	7/16-20	1.375	18	6,402	.15
CM8	CML8	.5000	1.312	.625	.453	.937	2.438	1/2-20	1.500	17	8,386	.24
CM10	CML10	.6250	1.500	.750	.484	1.125	2.625	5/8-18	1.625	22	9,813	.36
CM12	CML12	.7500	1.750	.875	.593	1.312	2.875	3/4-16	1.750	18	14,290	.57

*Grease fitting not available

SPECIAL PRODUCTS

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	ULT. STATIC RADIAL LOAD (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0025 -0.0005	+0.010 -0.010	+0.005 -0.005	REF.	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	
CM4-3	CML4-3	.1900	.750	.375	.250	.500	1.562	1/4-28	1.000	2,225
CM5-4	CML5-4	.2500	.875	.437	.312	.625	1.875	5/16-24	1.250	3,600
CM6-5	CML6-5	.3125	1.000	.500	.359	.719	1.938	3/8-24	1.250	5,100
CM8-6	CML8-6	.3750	1.312	.625	.453	.937	2.438	1/2-20	1.500	8,386
CM10-8	CML10-8	.5000	1.500	.750	.484	1.125	2.625	5/8-18	1.625	9,813
CM12-8	CML12-8	.5000	1.750	.875	.593	1.312	2.875	3/4-16	1.750	14,290
CM10-12Z	CML10-12Z	.6250	1.750	.875	.687	1.312	2.875	5/8-18	1.750	*
CM12-757	CML12-757	.7570	1.750	.875	.687	1.312	2.875	3/4-16	1.750	14,290

MATERIALS

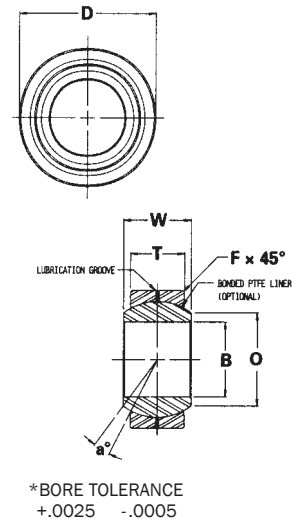
BALL	BODY
52100 STEEL Rc 56 MIN. HARD CHROME PLATED	LOW CARBON STEEL ZINC PLATED CHROMATE TREATED

Note: not all items are in stock. Non-stock items are typically 5 to 7 days away.

*Contact A.E.D.

COM/COMH Commercial Series/ PTFE Liners Available

BEARING NO.	B DIA.	D DIA.	W WIDTH	T WIDTH	O DIA.	BALL DIA.	F CHAMFER	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
	+0.0015 -0.0005	+0.0000 -0.0007	+0.005 -0.005	+0.005 +0.005	REF.	REF.	REF.	REF.		
COM3	.1900	.5625	.281	.218	.293	.406	.015	11	3,250	.014
COM4	.2500	.6562	.343	.250	.364	.500	.022	13.5	4,950	.022
COM5	.3125	.7500	.375	.281	.419	.562	.032	12	6,475	.030
COM6	.3750	.8125	.406	.312	.516	.656	.032	10	8,400	.038
COM7	.4375	.9062	.437	.343	.530	.687	.032	8	9,453	.047
COM8	.5000	1.000	.500	.390	.600	.781	.032	9.5	13,250	.065
COM9	.5625	1.0937	.562	.437	.671	.875	.032	9.5	16,630	.086
COM10	.6250	1.1875	.625	.500	.739	.968	.032	8.5	21,280	.110
COM12	.7500	1.4375	.750	.593	.920	1.187	.044	9	31,920	.204
COM14	.8750	1.5625	.875	.703	.978	1.312	.044	9.5	41,960	.263
COM16	1.0000	1.7500	1.000	.797	1.118	1.500	.044	10	55,200	.386
COMH16*	1.0000	2.0000	1.000	.781	1.360	1.687	.032	9	70,820	.553
COMH19*	1.1875	2.3750	1.187	.937	1.610	2.000	.032	8.5	100,730	.895
COMH20*	1.2500	2.3750	1.187	.937	1.610	2.000	.032	8.5	100,730	.895
COMH24*	1.5000	2.7500	1.375	1.094	1.860	2.312	.032	8.5	135,950	1.358
COMH28*	1.7500	3.1250	1.562	1.250	2.110	2.625	.044	8	176,370	1.948
COMH32*	2.0000	3.5000	1.750	1.375	2.360	2.937	.044	8.5	217,060	2.650



MATERIALS

BALL	RACE
52100 STEEL HEAT TREATED & CHROME PLATED ALTERNATIVE MATERIALS AVAILABLE	LOW CARBON STEEL OIL COATED ALTERNATIVE MATERIALS



NOTES:

1. Lubrication grooves in I.D. & O.D. of race
2. For Teflon Liner add "T" to suffix. EXAMPLE: COM12T (units with PTFE Liners have no lubrication holes or grooves in race.)

JM/JML 3-Piece, Precision-Wear Resistant Steel - PTFE Liners Available

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0015 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.015 +0.015	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
JM2*	JML2*	.1250	.500	.250	.187	.312	.937	6-32 UNC	.562	16	500	.013
JM3	JML3	.1900	.625	.312	.250	.437	1.250	10-32	.750	13	1,174	.03
JM4	JML4	.2500	.750	.375	.281	.500	1.562	1/4-28	1.000	16	2,168	.04
JM5	JML5	.3125	.875	.437	.344	.625	1.875	5/16-24	1.250	14	2,796	.07
JM6	JML6	.3750	1.000	.500	.406	.719	1.938	3/8-24	1.250	12	4,012	.11
JM7	JML7	.4375	1.125	.562	.437	.812	2.125	7/16-20	1.375	14	4,244	.16
JM8	JML8	.5000	1.312	.625	.500	.937	2.438	1/2-20	1.500	12	6,700	.25
JM10	JML10	.6250	1.500	.750	.562	1.125	2.625	5/8-18	1.625	16	7,400	.38
JM12	JML12	.7500	1.750	.875	.687	1.312	2.875	3/4-16	1.750	14	11,550	.60
JM16**	JML16	1.0000	2.950	1.375	1.015	1.875	4.125	1-1/4-12	2.125	17	43,555	2.406
JM16-1**	JML16-1**	1.0000	2.950	1.375	1.015	1.875	4.125	1-14	2.125	17	43,555	2.127
JM16-2**	JML16-2**	1.0000	2.950	1.375	1.015	1.875	4.125	1-12	2.125	17	43,555	2.127

MATERIALS

BALL	BODY	RACE
52100 STEEL Rc 56 MIN. HARD HARD CHROME PLATED	LOW CARBON STEEL ZINC PLATED CHROMATE TREATED	STEEL ALLOY, HEAT TREATED ZINC PLATED, CHROMATE TREATED

- NOTES:
- * Grease fittings & PTFE LINERS not AVAILABLE on these sizes.
 - ** TOLERANCE VARIATION "D", "A" ARE $\pm .020$. Male rod end load ratings are based on no lubricating fitting.
 - For load ratings with lubricator, please contact A.E.D. Motorsport Products

JMX/JMXL 3-Piece, Precision, 4130 Chrome Moly

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0015 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.005 +0.005	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
JMX3	JMXL3	.1900	.625	.312	.250	.437	1.250	10-32	.750	13	2,855	.03
JMX4	JMXL4	.2500	.750	.375	.281	.500	1.562	1/4-28	1.000	16	5,262	.04
JMX5	JMXL5	.3125	.875	.437	.344	.625	1.875	5/16-24	1.250	14	7,640	.07
JMX6	JMXL6	.3750	1.000	.500	.406	.719	1.938	3/8-24	1.250	12	9,550	.11
JMX7	JMXL7	.4375	1.125	.562	.437	.812	2.125	7/16-20	1.375	14	10,290	.16
JMX8	JMXL8	.5000	1.312	.625	.500	.937	2.438	1/2-20	1.500	12	16,242	.25
JMX10	JMXL10	.6250	1.500	.750	.562	1.125	2.625	5/8-18	1.625	16	17,959	.38
JMX12	JMXL12	.7500	1.750	.875	.687	1.312	2.875	3/4-16	1.750	14	28,090	.60
JMX14	JMXL14	.8750	2.000	.875	.687	1.312	3.375	7/8-14	1.875	12	55,690	.91
JMX16**	JMXL16**	1.0000	2.950	1.375	1.015	1.875	4.125	1-1/4-12	2.125	17	76,205	2.406
JMX16-1**	JMXL16-1**	1.0000	2.950	1.375	1.015	1.875	4.125	1-14	2.125	17	107,182	2.464

MATERIALS

BALL	BODY	RACE
52100 STEEL Rc 56 MIN. HARD HARD CHROME PLATED	STEEL ALLOY, HEAT TREATED, ZINC PLATED CHROMATE TREATED	STEEL ALLOY, HEAT TREATED ZINC PLATED, CHROMATE TREATED

NOTES:

** TOLERANCE VARIATION "D", "A" ARE $\pm .020$.

Male rod end load ratings are based on no lubricating fitting.

For load ratings with lubricator, please contact AED Motorsport Products.

JM & JMX series available in metric sizes

RSMX/RSMX-T 3-Piece, Heavy-Duty Shank, 4130 Chrome Moly

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0015 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.005 +0.005	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
RSMX3	RSMXL3	.1900	.750	.312	.250	.437	1.562	1/4-28	1.000	10	5,270	.043
RSMX4	RSMXL4	.2500	.875	.375	.281	.500	1.875	5/16-24	1.250	13	8,471	.072
RSMX5	RSMXL5	.3125	1.000	.437	.344	.625	1.938	3/8-24	1.250	12	13,012	.112
RSMX6	RSMXL6	.3750	1.125	.500	.406	.719	2.125	7/16-20	1.375	10	17,610	.160
RSMX7	RSMXL7	.4375	1.312	.562	.437	.812	2.438	1/2-20	1.500	12	23,470	.249
RSMX8	RSMXL8	.5000	1.500	.625	.500	.937	2.625	5/8-18	1.625	10	31,420	.382
RSMX10	RSMXL10	.6250	1.750	.750	.562	1.125	2.875	3/4-16	1.750	13	40,590	.602
RSMX12	RSMXL12	.7500	2.000	.875	.687	1.312	3.375	7/8-14	1.875	12	55,696	.918

MATERIALS

BALL	BODY	RACE
52100 STEEL Rc 56 MIN. HARD CHROME PLATED	STEEL ALLOY, HEAT TREATED ZINC PLATED CHROMATE TREATED	STEEL ALLOY, HEAT TREATED ZINC PLATED CHROMATE TREATED

For PTFE add "T" to suffix (ex. JMX8T)
See detailed current listing on our website or call for a complete catalog.

ALJM 3-Piece, Aluminum Series

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0015 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.005 +0.005	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
ALJM6	ALJML6	.3750	1.000	.500	.406	.719	1.938	3/8-24	1.250	12	4,208	.078
ALJM7	ALJML7	.4375	1.125	.562	.437	.812	2.125	7/16-20	1.375	14	4,534	.091
ALJM8	ALJML8	.5000	1.312	.625	.500	.937	2.438	1/2-20	1.500	12	7,698	.140
ALJM10	ALJM10	.6250	1.500	.750	.562	1.125	2.625	5/8-18	1.625	16	8,516	.240
ALJM10H	ALJML10H	.6250	1.750	.750	.562	1.125	2.625	5/8-18	1.625	16	16,000	.268
ALJM12	ALJML12	.7500	1.750	.875	.687	1.312	2.875	3/4-16	1.750	14	13,319	.300

MATERIALS

BALL	BODY	RACE
52100 STEEL Rc 56 MIN. HARD CHROME PLATED	ALUMINUM 7075-T6 HARD ANODIZED RED	STEEL ALLOY, HEAT TREATED ZINC PLATED, CHROMATE TREATED

ALRSM 3-Piece, Aluminum Series/ Extra Strength, Heavy-Duty Shank

MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH.	N THD.	C LGTH.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs.)	APPROX. WEIGHT (lbs.)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0015 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.005 +0.005	REF.	+0.015 -0.015	UNF 3A	+0.062 -0.031	REF.		
ALRSM6	ALRSML6	.3750	1.125	.500	.406	.719	2.125	7/16-20	1.375	10	7,718	.088
ALRSM7	ALRSML7	.4375	1.312	.562	.437	.812	2.438	1/2-20	1.500	12	11,000	.121
ALRSM8	ALRSML8	.5000	1.500	.625	.500	.937	2.625	5/8-18	1.625	10	14,880	.200
ALRSM10	ALRSML10	.6250	1.750	.750	.562	1.125	2.875	3/4-16	1.750	13	19,240	.317

MATERIALS

BALL	BODY	RACE
52100 STEEL Rc 56 MIN. HARD CHROME PLATED	ALUMINUM 7075-T6 HARD ANODIZED RED	STEEL ALLOY, HEAT TREATED ZINC PLATED, CHROMATE TREATED

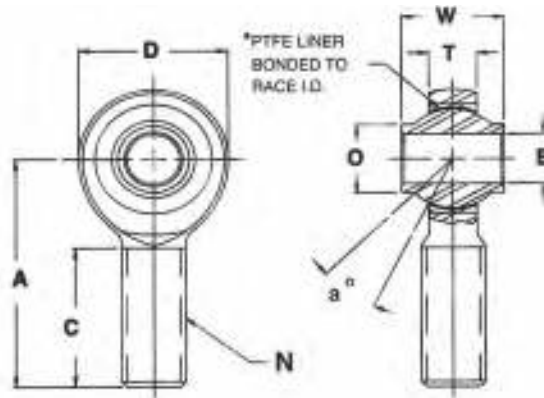
*For PTFE liners, add "T" to suffix (ex., ALJM6T)
See detailed current listing on our website or call for a complete catalog.*



HRSMX-T/HIN-T

High Misalignment Series

Male Rod Ends & Spherical Bearings- Heavy Duty

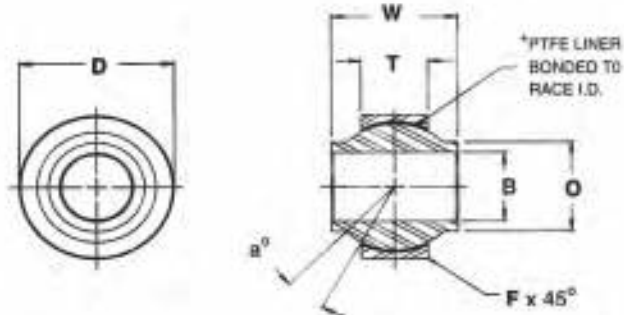


MALE ROD ENDS		B DIA.	D DIA.	W WIDTH	T WIDTH	BALL DIA.	A LGTH	N THD.	C LGTH	O DIA.	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs)	APPROX. WEIGHT (lbs)
RIGHT HAND PART NO.	LEFT HAND PART NO.	+0.0000 -0.0005	+0.010 -0.010	+0.000 -0.005	+0.005 -0.005	REF.	+0.015 -0.015	UNF 3A	+0.031 -0.031	REF.	REF.		
HRSMX6T	HRSMXL6T	.3750	1.150	.813	.355	.781	2.125	7/16-20	1.281	.512	22	11,789	.15
HRSMX7T	HRSMXL7T	.4375	1.337	.875	.355	.875	2.438	1/2-20	1.468	.618	21	17,100	.24
HRSMX8T	HRSMXL8T	.5000	1.525	.937	.411	1.000	2.625	5/8-18	1.562	.730	19	23,703	.39
HRSMX10T	HRSMXL10T	.6250	1.775	1.200	.577	1.250	2.875	3/4-16	1.687	.856	19	32,100	.60
HRSMX12T	HRSMXL12T	.7500	2.025	1.280	.630	1.375	3.375	7/8-14	2.000	.970	18	38,701	.89

* A trade mark of E.I. DuPont de Nemours & Co., Inc.

MATERIALS

BALL	BODY
52100 STEEL Rc 58 MIN. HARD HARD CHROME PLATED	4340 STEEL, HEAT TREATED ZINC PLATED CHROMATE TREATED
RACE	LINER
STEEL ALLOY ZINC PLATED CHROMATE TREATED	*TEFLON FABRIC



BEARING PART NO.	B DIA.	D DIA.	W WIDTH	T WIDTH	O DIA.	BALL DIA.	F CHAMFER	a° MIS. ANGLE	ULT. STATIC RADIAL LOAD (lbs)	APPROX. WEIGHT (lbs)
	+0.0000 -0.0005	+0.0000 -0.0005	+0.000 -0.005	+0.005 -0.005	REF.	REF.	REF.	REF.		
HIN6T	.3750	.9060	.813	.345	.512	.781	.030	23	16,983	.068
HIN7T	.4375	1.0000	.875	.345	.618	.875	.030	22	19,023	.095
HIN8T	.5000	1.1250	.937	.401	.730	1.000	.030	20	25,275	.160
HIN10T	.6250	1.3750	1.200	.567	.856	1.250	.030	20	44,652	.245
HIN12T	.7500	1.5625	1.280	.620	.970	1.375	.035	18	53,716	.315

FK Rod Ends Interchange Table

INTERCHANGE TABLE

FK	ALINABAL	AURORA	HEIM / BOSTON	MORSE / SPHERCO	TUTHILL	NMB / NHBB
MALE ROD ENDS						
CM	AM-GP	CM	M-CR	CFM	MSM	AHM / LSPL
CM-T	AM-T-GP	VCM		CFM-T	MSM-T	
CM-Y	AM-S-GP	CM-S	M-CRY	CFM-Y	MSM-S	
CM-Z	AM-8	CM-Z	M-CRG	CFM-N	MSM-Z	
CM-M		CM-M			EM-M	
CMX		RM-X5			MAX	
M		BM	HM	TRE		
M-SB	VM-G		HM-C	TM	MBM	
NJM	PM		CMHD	CTMD	NM/SPM	
JM	LCTM-X5	MM / KM	HMA		MTSM	HAMR
JM-T		MM-T / KM-T	HME	TRE-T	MTSM-T	AMRT
JMX	RM-X5	AM	BHM	ARE	TSMX	HAMRX
RJMX-T		RAM-T			NSMX-T	
RSM	LCRM-1-X5	XM			RM	AXM
RSMX	RM-1-X5	XAM			RMX	XAMX
RRSMX-T		RXAM-T				
HRSMTX-T		HXAM-T				ARYT-ECR
PMX-T		PRM-T				ART-ES
KMX						
ALJM/ALJMH	ARM-X5	ALM			KCA	ALRE
ALRSM	ARM-1-X5	XALM			KCAX	XALRE
SCM-T		CM-ET			SSM-T	
SJM-T		SM-ET	ME		SSAM-T	ART-ECR
SRSMT-T					SSHMT-T	ARHT-ECR
SCM-MT						
FEMALE ROD ENDS						
CF	AF-GP	CW	F-CR	CFF	MSF	AHF-CSPL
CF-T	AF-T-GP	CW-T		CFF-T	MSF-T	
F		BW	HF	TR		
F-SB	VF-G		HFC	TF	MBF	
NJF	PF		CFHD	CTFD	NF/SPF	
JF	CF	MW / KW	HFA		MTSF	HAFR
JF-T		MW-T / KW-T	HFE	TR-T	MTSFT	AFRT
JFX		AW		AR	TSFX	HAFRX
ALJF						
SCF-T		CW-ET			SSF-T	
SJF-T		SW-ET			SSAF-T	ART-CR
SCF-MT						
SPHERICAL BEARINGS						
COM	COM-E	COM	COM	COM	COM	CBG
COMH		HCOM		BH-LS		RSH
HIN-T		HAB-T			YSSB	ABYT
K	VBC-G		LS	FLBG		ASL-G
FKS		COM-KH	LHA	SBGS		RS
FKS-T		COM-KHT				RS-T
FKSSX-T		NC-T	NE/LHSSE	NRR	NSSB	ABT
FKSSX-TV		NC-TG	NE-G/LHSSV V	NRRG	NSSB-V	ABT-V
WSSX-T		WC-T	WE	WRR	WSSB	ABWT
WSSX-TV		WC-TG	WE-G	WRRG	WSSB-V	ABWT-V

NOTE:

This interchange table shows approximate equivalency. It is not intended that all manufacturers' products are functionally interchangeable in all applications. F.K. Bearings reserves the right to change specifications and other information included in this catalog without notice. All information, data, and dimension tables in this catalog have been carefully compiled and thoroughly checked. However, no responsibility for possible errors or omissions can be assumed.

WARNING!

The manufacturer can not determine all applications of its products. It is up to the customer to determine a suitable part for their application. For assistance, please contact A.E.D.

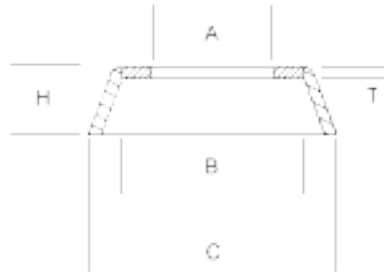
Rod End Seals

Rod End Seals have many applications!

From asphalt and dirt track racers, high performance suspensions to precision flaps on aircraft wings, Seals-It rod end seals get the job done. Keep dirt, water and other contaminants from damaging the performance of your rod ends. Exposed bearing surfaces let dirt in and lube out, protection is easy and immediately effective.



SIZE	A	B	C	H	T
1/4	.257ø	.375ø	.500ø	.125	.025
5/16	.325ø	.487ø	.710ø	.200	.047
3/8	.386ø	.525ø	.775ø	.220	.047
7/16	.445ø	.610ø	.910ø	.250	.047
1/2	.515ø	.710ø	1.125ø	.250	.047
5/8	.638ø	.900ø	1.250ø	.264	.047
3/4	.763ø	1.000ø	1.375ø	.375	.047
1.0	1.005ø	1.350ø	2.000ø	.500	.047



Firewall Grommet Seals

Grommet seals have many applications. In race cars they serve to keep unwanted smoke and fumes from entering the driver's area while protecting lines from chafing and abrading on rough surfaces. In hot rods and custom car applications, they provide the perfect "finishing touch" to all through panel installations. Wiring, fuel and oil lines, air and liquid hoses, and all other lines that make up your rod or custom, can make an otherwise detailed installation look unfinished. Seals-It grommet seals add the well-organized, professional appearance you want throughout your vehicle. Grommet seals also have many other applications including: marine, commercial equipment, motor homes, etc.



Note: "blank"-no hole seals

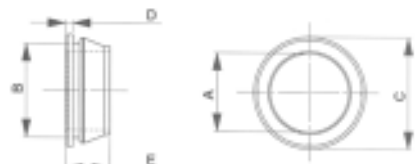
We recommend the use of a "cookie cutter" type of punch along with a block of wood or similar base to lay the seal on. These can be of your own making, or purchased. The use of scissors, power drills, etc, are not recommended as they can produce poor results or damage your seal.

Gauge Isolators

Don't let track conditions or suspension settings be a factor in reading your gauges. These isolators dampen vibration so you can read them easier and also increase gauge life. They're also great for fixing the occasional "oops" when making a dash panel! Available in a variety of sizes plus custom applications. Installation Tip: After placing the grommet in the properly sized hole, you may experience resistance when attempting to insert the gauge. We have found that lubricating the rubber with liquid window cleaner does the trick. Dipping a finger in the liquid and rubbing it on the opening of the grommet can accomplish this.

Gauge Grommet Isolators

PART NO.	A	B	C	D	E
DB 206-225	2.060	2.250	2.700	.150	.930
DB 260-275	2.620	2.750	3.200	.200	1.250



Rod End Boots

Preventing rod end failures has been a high priority goal for Seals-it ever since the company's inception.

Rod End Seals were, in fact, the product that got

Seals-it into the manufacturing business many years ago. That product evolved as the result of a couple of untimely rod end failures on Seals-it founder Skip Matczak's racecars, and his commitment that it would not happen again.

In keeping with this goal, A.E.D. now offers Seals-it's RODOBAL line of Rod End Boots. In certain cases, the fully enclosed boot may best satisfy the needs of an application where anything less than complete rod end isolation from the elements will not provide the desired protection.

Protect your rod ends from the elements with these Rod End Boots from the Seals-it Company!!



Seals-it boots are available in five sizes, which can be used for either Imperial (English) or Metric rod ends. The same boot fits either a male or female rod end.

Boot Part Number	Bore Size - Imperial Rod End	Bore Size - Metric Rod End
RERS 1	3/16" 1/4" 5/16"	6mm, 8mm
RERS 2	3/8" 7/16"	10mm, 12mm
RERS 3	1/2" 5/8" 3/4"	14mm, 16mm, 18mm
RERS4	7/8" 1"	20mm, 22mm, 25mm
RERS 5	1 1/4"	30mm, 35mm

Presently, A.E.D. will be stocking only part numbers RERS 2 and RERS 3, although this may change in the future. Lead time for other sizes to be advised at time of order.

Pipemaster Tube Templates

The welder's tool for contour fits. Now, with a simple and economic tool, you can quickly and easily draw out your tube outline to weld any shape at any angle! The template transfers the exact outline of the tube or pipe joint in just seconds! It can be used for penetration cuts. The Pipemaster Tools feature spring temper stainless steel pins, 6063 Aluminum shell and rugged ABS housing.



Part #	Pipe Size	Tube Size O.D.
P-T050		1/2"
P-T0625		5/8"
P-T075		3/4"
P-T0875		7/8"
P-T100		1"
P-T1125		1-1/8"
P-T125		1-1/4"
P-T1375		1-3/8"
P-T150		1-1/2"
P-T162	1-1/4"	1-5/8"
P-T175		1-3/4"
P-T200		2"

SIMPLE INSTRUCTIONS:



Production Saw Cutting



WE OFFER CUTTING ON 3 PRODUCTION SAWS

2 PRECISION COLD SAWS

Haberle H-300 Manual operation

Kalamazoo FS350A Fully automatic

Features: 2 speeds
Air Operated Vise
Liquid Cooled
Mitering 0 to 45 degrees

Capacities: 3.75" Round
3.50" Square

Tolerances: (+- .004") 1/4" to 17"
(+- .015") 17" to 36"
36" plus as needed

KMT 350A BAND SAW FULLY AUTOMATIC

Features: Variable speeds
Carbide blades
Mitering 0 to 45 degrees

Capacities: 11" Diameter
10.5" Square
1/4" to 20" cut lengths

Tolerances: (+- .005") tolerance
minimal drop

Call A.E.D. and discuss your saw cutting needs. Increase your yield. We provide a superior cut quality

Special packaging and handling available
10 pieces to thousands of parts

Your materials or ours
Steel, aluminum, stainless, alloys
Quick turnaround. Call for pricing.

Production Shearing



A.E.D. has processed materials for distributors and end users for many years. We offer excellent service, superior quality and custom services, processing your inventory or our stock.

1/4" x 120" Adira 1025 Hydraulic Power Squaring Shear
Capacity: 1/4" Mild Steel, 3/16" Stainless, 3/8" Commercial Grade Aluminum
40" front operated back gauge, 10" deep gap to allow shearing of sheets longer than 120".

Primeline Mechanical Shear: .125" x 96" Specifically for tight tolerances, light gauge and fragile materials.

Valco Cincinnati Consumer Products



Valco Cincinnati's growing line of products are offered to the consumer automotive market and high-performance racing industry. Valco's Consumer Products division makes sealants, adhesives, cleaners, waxes, polishes and more. A.E.D. offers a wide range of Valco Products, including Hylomar, All-in-One Silicones, Magic Mix Polishes, Lube Tube, Thread Locker, Epoxi Putty and much more! Visit our website for the full line-up of products!



Hylomar Products



All-in-One Silicone



Clip-on hooks



HV-350 Adhesive



Lenox Lube Tube



Solvent 184 Cleaner/Degreaser



Epoxi-Putty



Magic Mix Aluminum Brightener



Grip-it, Strip-it Peeler

Don't see it? Ask for it! We can get it.

Accessories



Protect all valuable metals with A.E.D.'s preferred "RUST TEK 17" rust inhibitor.

Rust Tek 17 is a solvent-based, water soluble corrosion inhibitor that is easy to apply and remove. A must for long term storage! Suitable for 6 - 18 months of indoor protection. Excellent to protect your 4130 Chrome Moly tubes and sheets as well as finished parts for shipping and storage. Packaged in 1 quart spray applicator bottles. We use this product religiously for all shipments moving overseas - especially Australia and New Zealand.

6' Tie Down Straps



Safety washers available for rod ends!

**4130 Alloy
303 Stainless Steel
6061 Aluminum
See our website for sizes!**

Decimal & Metric Equivalents of Common Fractions of an Inch

FRACTION	DECIMAL	MM
$\frac{1}{64}$	.01562	0.397
$\frac{1}{32}$	.03125	0.794
$\frac{3}{64}$	.04688	1.191
$\frac{1}{16}$	.06250	1.588
$\frac{5}{64}$	.07812	1.984
$\frac{3}{32}$	.09375	2.381
$\frac{7}{64}$	.10938	2.778
$\frac{1}{8}$	.12500	3.175
$\frac{9}{64}$	.14062	3.572
$\frac{5}{32}$	.15625	3.969
$\frac{11}{64}$	.17188	4.366
$\frac{3}{16}$	.18750	4.763
$\frac{13}{64}$	.20312	5.159
$\frac{7}{32}$	.21875	5.556
$\frac{15}{64}$	.23438	5.953
$\frac{1}{4}$	.25000	6.350
$\frac{17}{64}$	.26562	6.747
$\frac{9}{32}$	.28125	7.144
$\frac{19}{64}$	.29688	7.541
$\frac{5}{16}$	.31250	7.938
$\frac{21}{64}$	.32812	8.334
$\frac{11}{32}$	.34375	8.731
$\frac{23}{64}$	.35938	9.128
$\frac{3}{8}$	.37500	9.525
$\frac{25}{64}$	.39062	9.922
$\frac{13}{32}$	.40625	10.319
$\frac{27}{64}$	.42188	10.716
$\frac{7}{16}$	.43750	11.113
$\frac{29}{64}$	.45312	11.509
$\frac{15}{32}$	.46875	11.906
$\frac{31}{64}$	.48438	12.303
$\frac{1}{2}$	.50000	12.700

FRACTION	DECIMAL	MM
$\frac{33}{64}$	.51562	13.097
$\frac{17}{32}$	.53125	13.494
$\frac{35}{64}$	.54688	13.891
$\frac{9}{16}$	.56250	14.288
$\frac{37}{64}$	.57812	14.684
$\frac{19}{32}$	.59375	15.081
$\frac{39}{64}$	.60398	15.478
$\frac{5}{8}$	.62500	15.875
$\frac{41}{64}$	.64062	16.272
$\frac{21}{32}$	.65625	16.669
$\frac{43}{64}$	.67188	17.066
$\frac{11}{16}$	.68750	17.463
$\frac{45}{64}$	.70312	17.859
$\frac{23}{32}$	.71875	18.256
$\frac{47}{64}$	.73438	18.653
$\frac{3}{4}$	.75000	19.050
$\frac{49}{64}$	.76562	19.447
$\frac{25}{32}$	.78125	19.844
$\frac{51}{64}$	.79688	20.241
$\frac{13}{16}$	.81250	20.638
$\frac{53}{64}$	.82812	21.034
$\frac{27}{32}$	.84375	21.431
$\frac{55}{64}$	.85938	21.828
$\frac{7}{8}$	.87500	22.225
$\frac{57}{64}$	.89062	22.622
$\frac{29}{32}$	.90625	23.019
$\frac{59}{64}$	.92188	23.416
$\frac{15}{16}$	.93750	23.813
$\frac{61}{64}$	.95312	24.209
$\frac{31}{32}$	.96875	24.606
$\frac{63}{64}$	.98438	25.003
1	1.00000	25.400

Conversion Charts

HARDNESS CONVERSION TABLE (Approximate)

Brinell	Rockwell B	Rockwell C	Approximate Tensile	Brinell	Rockwell B	Approximate Tensile
653	--	62	324,000	217	96	103,000
627	--	60	311,000	212	96	103,000
601	--	59	306,000	207	95	101,000
578	--	57	290,000	202	94	98,000
555	--	56	284,000	197	93	96,000
534	--	54	270,000	192	92	93,000
514	--	53	263,000	187	91	91,000
495	--	51	250,000	183	90	89,000
477	--	50	243,000	179	89	87,000
461	--	49	236,000	174	88	85,000
444	--	47	223,000	170	87	83,000
429	--	47	217,000	166	86	81,000
415	--	45	211,000	163	85	80,000
401	--	42	194,000	159	84	78,000
388	--	41	188,000	156	83	77,000
375	--	40	182,000	153	82	76,000
363	--	38	171,000	149	81	75,000
352	--	37	166,000	146	80	74,000
331	--	36	162,000	143	79	73,000
321	--	34	153,000	140	78	71,000
311	--	33	148,000	137	77	70,000
302	--	32	144,000	134	76	69,000
293	--	31	140,000	131	74	67,000
285	--	30	136,000	128	73	66,000
277	--	29	132,000	126	72	65,000
269	--	28	129,000	124	71	63,000
262	--	27	126,000	121	70	62,000
255	--	25	120,000	118	69	61,000
248	--	24	117,000	116	68	60,000
241	100	23	115,000	114	67	59,000
235	99	22	112,000	112	66	58,000
229	98	21	110,000	109	65	57,000
223	97	20	108,000	107	64	55,000

GAGE CONVERSIONS - STEEL SHEETS

Hot Rolled · HRP & O · Cold Rolled

Gage No.	Thickness, Inches			lbs per sq.ft.	Gage No.	Thickness, Inches		lbs per sq.ft.
	Dec. Equiv.	Toler. Range				Dec. Equiv.	Toler Range CR	
		HR & P&O	CR	Wt Equiv.*				Wt Equiv.*
4	.2242	.2332 .2152		9.375	19	.0418	.0458 .0378	1.75
5	.2092	.2182 .2002		8.75	20	.0359	.0389 .0329	1.5
6	.1943	.2033 .1853		8.125	21	.0329	.0359 .0299	1.375
7	.1793	.1873 .1713	.1883 .1703	7.5	22	.0299	.0329 .0269	1.25
8	.1644	.1724 .1564	.1734 .1554	6.875	23	.0269	.0299 .0239	1.125
9	.1495	.1575 .1415	.1585 .1405	6.25	24	.0239	.0269 .0209	1.0
10	.1345	.1425 .1265	.1405 .1285	5.625	25	.0209	.0239 .0179	.875
11	.1196	.1276 .1116	.1256 .1136	5.0	26	.0179	.0199 .0159	.75
12	.1046	.1126 .0966	.1106 .0986	4.375	27	.0164	.0184 .0144	.688
13	.0897	.0967 .0827	.0947 .0847	3.75	28	.0149	.0169 .0129	.625
14	.0747	.0817 .0677	.0797 .0694	3.125	29	.0135	.0155 .0115	.562
15	.0673	.0733 .0613	.0723 .0623	2.812	30	.0120	.0130 .0110	.5
16	.0598	.0658 .0538	.0648 .0548	2.5				
17	.0538	.0598 .0478	.0578 .0498	2.25				
18	.0479	.0528 .0428	.0519 .0438	2.0				

Wire Gauge Conversion Table

W&M Wire Gauge	Wire Diameter		W&M Wire Gauge	Wire Diameter	
	In.	mm		In.	mm
0	.3065	7.7851	21	.0317	.8052
1	.2830	7.1882	22	.0286	.7264
2	.2625	6.6675	23	.0258	.6553
3	.2437	6.1900	24	.0230	.5842
4	.2253	5.7226	25	.0204	.5182
5	.2070	5.2578	26	.0181	.4597
6	.1920	4.8768	27	.0173	.4394
7	.1770	4.4958	28	.0162	.4115
8	.1620	4.1148	29	.0150	.3810
9	.1483	3.7668	30	.0140	.3556
10	.1350	3.4290	31	.0132	.3353
11	.1205	3.0607	32	.0128	.3251
12	.1055	2.6797	33	.0118	.2997
13	.0915	2.3241	34	.0104	.2642
14	.0800	2.0320	35	.0095	.2413
15	.0720	1.8288	36	.0090	.2286
16	.0625	1.5875	37	.0085	.2159
17	.0540	1.3716	38	.0080	.2032
18	.0475	1.2065	39	.0075	.1905
19	.0410	1.0414	40	.0070	.1778
20	.0348	.8839			

Conversion Charts

COMMON METRIC EQUIVALENTS

	Approximate Equivalents	Accurate Conversions
1 inch	25 millimeters	25.4 millimeters
1 foot	0.3 meter	0.3048 meters
1 yard	0.9 meter	0.9144 meters
1 mile	1.6 kilometers	1.60934 kilometers
1 square inch	6.5 sq. centimeters	6.4516 sq. centimeters
1 square foot	0.09 square meter	0.092 903 sq. meters
1 square yard	0.8 square meter	0.836 127 sq meters
1 acre	0.4 hectare	0.404 686 hectares
1 cubic inch	16 cu. centimeters	16.3871 cu. centimeters
1 cubic foot	0.03 cubic meter	0.028 316 cu. meters
1 cubic yard	0.8 cubic meter	0.764 555 cu. meters
1 quart (lq.)	1 liter	0.946 353 liters
1 gallon	0.004 cubic meter	0.003 785 41 cu. meters
1 ounce (avdp.)	28 grams	28.349 grams
1 pound (avdp.)	0.45 kilograms	0.453 592 kilograms
1 horsepower	0.75 kilowatt	0.745 700 kilowatts
1 millimeter	0.04 inch	0.039 370 1 inches
1 meter	3.3 feet	3.280 84 feet
1 meter	1.1 yards	1.093 61 yards
1 kilometer	0.6 mile	0.621 371 miles
1 sq. centimeter	0.16 square inch	0.155 sq. inches
1 sq. meter	11 square feet	10.7639 sq. feet
1 sq. meter	1.2 square yards	1.195 99 sq. yards
1 hectare	2.5 acres	2.471 05 acres
1 cu. centimeter	0.06 cubic inch	0.061 023 cu. inches
1 cubic meter	35 cubic feet	35.3147 cu. feet
1 cubic meter	1.3 cubic yards	1.307 95 cu. yards
1 liter	1 quart (lq)	1.056 69 quarts (lq.)
1 cubic meter	264 gallons	264.172 gallons
1 gram	0.035 ounces (avdp.)	0.035 274 ounces (avdp.)
1 kilogram	2.2 pounds (avdp.)	2.204 62 pounds (avdp.)
1 kilowatt	1.3 horsepower	1.341 02 horsepower

WEIGHT CONVERSION TABLE

To find the weight of the metals below

Multiply the weight of plain steel by

Aluminum	0.3357
Brass (70-30)	1.0883
Brass (80-20)	1.1060
Bronze, Commercial (90-10)	1.1237
Bronze, Phosphor (95-5)	1.1307
Copper, Pure	1.1413
Gold (24 Kt.)	2.4664
HASTELLOY Alloy C-276	1.1343
INCONEL Alloy 600	1.0742
INCONEL Alloy 601	1.0283
Iron, Wrought	0.9929
Lead	1.4155
Molybdenum	1.3074
MONEL Alloy 400	1.1343
Nickel 200	1.1343
Nickel, Pure	1.1343
Platinum	2.7385
Silver, Fine	1.3392
Stainless Steel (18-8)	1.0247
Tantalum	2.1201
Titanium	0.5795
Tungsten	2.4734

Metric Units & Abbreviations

LENGTH

WEIGHT

Unit	Abbr.	Unit	Abbr.
1000 kilometer	km	kilogram	kg
100 hectometer	hm	hectogram	hg
10 dekameter	dam	dekagram	dag
Base Unit meter	m	gram	g
1/10 decimeter	dm	decigram	dg
1/100 centimeter	cm	centigram	cg
1/1000 millimeter	mm	milligram	mg

COMMON CONVERSION FACTORS

Inch to Millimeters - multiply by 25.4
 Millimeters to Inch - multiply by .03937
 Feet to Meters - multiply by .3048
 Meters to Feet - multiply by 3.281
 Yards to Meters - multiply by .9144
 Meters to Yards - multiply by 1.609
 Kilometers to Miles - multiply by .6214

WEIGHT

If you know:	You can get:	If you multiply by:
ounces (avdp)	grams	28.35
pounds	kilograms	0.454
short tons	megagrams (metric tons)	0.907
grams	ounces (avdp)	0.035
kilograms	pounds	2.205
megagrams (metric tons)	short tons	1.102
pounds per ft.	kilograms per meter	1.488

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