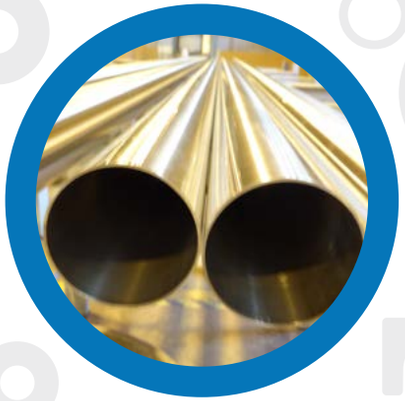
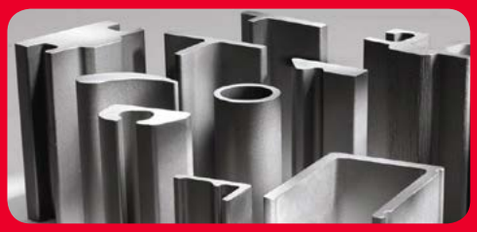


PLYMOUTH TUBE CO USA®



Extruded Engineered Shapes

CARBON & ALLOY STEEL GRADES

1018	1045	12L14	6150	A36
1029	1050	4130	8620	A588
1030	1060	4140	8630	A690
1035	10L18	4150	8640	GRADE 50
1040	1215	4340	9310	

Specifications Where Applicable				Outside Dimensions
AMS S6758	ASTM A 36	ASTM A 576	AMS-S-6758A	Shape cross-section must fit within 6-inch (152.4 mm) diameter.
AMS 6415	ASTM A 105	ASTM A 588	AMS 6382	
AMS S5000	ASTM A 322	ASTM A 690		

STAINLESS STEEL GRADES

303	400 SERIES	13-8 MO
304 SERIES	418	15-5 PH
310	422	17-4 PH
316 SERIES		

Specifications Where Applicable				Outside Dimensions
AMS 5610	AMS 5629	AMS 5646	ASTM A276	Shape cross-section must fit within 5.5-inch (139.7 mm) diameter.
AMS 5613	AMS 5639	AMS 5648	ASTM A511	
AMS 5616	AMS 5640	AMS 5651		
AMS 5621	AMS 5643	AMS 5659		
AMS 5627	AMS 5645	AMS QQS 763		

NICKEL ALLOY GRADES

ALLOY 400	Bi-Metals
ALLOY 600	
A-286	

Specifications Where Applicable			Outside Dimensions
AMS 5665	ASTM A 164	ASTM B456	Shape cross-section must fit within 5.5-inch (139.7 mm) diameter.
AMS 5732	ASTM B766	QQ-N-281	

TITANIUM GRADES*

6AL-4V
6AL-6V-2SN
6AL-2SN-4ZR-2MO*

Specifications Where Applicable				Outside Dimensions
AMS 4935	DMS 1650	AMS 4921	AIMS 03-18-011	Shape cross-section must fit within 7.75-inch (196.8 mm) diameter. *Shape cross-section must fit within 6-inch (152.4 mm) diameter.
AMS 4975	AMS-T-81556A	MMS 1202		

Cold Drawn Shapes

Carbon and Alloys	US Grades in Series 1000, 4000, 6000, 8000, 9000
Stainless Steels in Complex Geometries	Series 300 & 400 Stainless Steel
PH grades in Rounds, Hexes or Octagons	17-4, 17-7, 15-5, 13-8
Exotic Alloys	Monel 400, Inconel, Hastelloy, etc.
Solid, Round	0.25" - 3.75" OD
Hexagons and Octagons, Across Flats	0.3125" - 3.625"
Rectangles and Squares	0.625" per side min, 5.000" max
Unique Shapes	Greater than 0.625"
	Profile must fit within 6.500" Diameter Circle
Dimensional Tolerance, Standard*	+/- 0.005"
Fillet and Radii Tolerance, Standard*	0.015" in Carbon, 0.030" in Stainless
Ratio of Height vs. Width	1 : 1.16 (Max)
Cross Sectional Area	0.125 SQ IN. (Min)

* Tighter Tolerances may be available depending on geometry, size, and material.

Extruded Engineered Shapes - A process where a round billet is pre-heated and, after leaving the furnace, is pushed through a forming die into a profile. Extrusions can even be used to make complex profile shapes from metals which are difficult to form.

Cold Drawn Shapes - A process by which a bar or tube is reduced in size or changed in shape by pulling it through a series of dies or mandrels.

NOTE: Grades listed are current working grades. Other grades are subject to review. Grades, specifications, quantities, capabilities and tolerances can be discussed at time of inquiry. All specifications are to the latest revision.

Carbon & Alloy Steel Tubing

ASTM A and ASME SA Specifications		Grades	OD Range		Wall Range AW=Average Wall / MW=Minimum Wall		Max Length	
			inches	mm	inches	mm	ft	m
BOILER AND PRESSURE TUBING								
-106	**Seamless Carbon Steel Tubing for High Pressure Service**	A B C	**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
-179	**Seamless Low Carbon Steel Heat Exchanger & Condenser Tubing**	A B C	**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
-192	**Seamless Carbon Steel Tubing for High Pressure Service**		**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
-209	**Seamless Carbon-Molybdenum Alloy Steel Boiler & Superheater Tubing**	T-1 T-1B T-1A	**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
-210	**Seamless Medium Carbon Steel Boiler & Superheater Tubing**	A-1 C	**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
-213	**Seamless Alloy Steel Boiler & Superheater Tubing**	T-2 T-12 T-5 T-22 T-11	**CD:** 1.250 to 6.000 **HF:** 1.900 to 5.000	**CD:** 31.75 to 152.40 **HF:** 48.26 to 127.00	**CD:** .105 to 1.000 MW **HF:** .180 to .570 MW	**CD:** 3.78 to 25.40 MW **HF:** 4.57 to 14.48 MW	75 65	26 20
MECHANICAL TUBING		(Special Shape OD/ID Combinations Available in Cold Drawn Seamless)						
-513	**Electric Resistance Welded Carbon Steel Tubing (DOM Type 5 & 6)** Other grades available upon request.	CARBON: 1010 TO 1020	.250 to 1.750	6.35 to 44.45	.020 to .120 AW	.710 to 3.05 AW	26	8
-519	**Seamless Carbon & Alloy Steel Tubing** Other grades available upon request.	CARBON: 1008 TO 1045 ALLOY: 1518, 4130, 4140	**CD:** .125 to 6.000 **HF:** 1.875 to 5.000	**CD:** 3.75 to 152.40 **HF:** 47.63 to 27.00	**CD:** .028 to 1.000 AW **HF:** .200 to 1.009 AW	**CD:** .711 to 25.40 AW **HF:** 5.08 to 24.13 AW	75 65	26 20
MIL/AMS-T-6736B **Seamless Aircraft Quality 4130 Tubing** 6736B (Condition A or N) & AMS 6360, 6371, 6381		4130	**CD:** 1.750 to 6.000	**CD:** 44.45 to 152.40	**CD:** .095 to 1.000 AW	**CD:** 2.413 to 25.40 AW	75	26
ProMoly® **High Performance Seamless Tubing** Made to AMS -T-6736B, MIL-T-6736B and AMS 6360 specifications.		4130	**CD:** .125 to 2.000	**CD:** 3.175 to 50.80	**CD:** .028 to .188	**CD:** .711 to 4.77	50	15
HYDRAULIC FLUID LINE TUBING								
SAE-J525 **Electric Resistance Welded Low Carbon Hydraulic Tubing** HYDRABRITE® Bright annealed suitable for bending, flaring and other special applications.		1010	**CD:** .250 to 1.750	**CD:** 6.35 to 44.45	**CD:** .020 to .120 AW	**CD:** .071 to 3.05 AW	26	6
SAE-J2467 **Electric Resistance Welded Low Carbon Hydraulic Tubing** Bright annealed suitable for high pressure applications. Available upon request pending raw material availability.		1021	**CD:** .250 to 1.750	**CD:** 6.35 to 44.45	**CD:** .020 to .120 AW	**CD:** .071 to 3.05 AW	26	8
SAE-J2614 **HS-50 High Pressure Hydraulic™ Tubing** Electric Resistance Welded, HSLA, Sub-Critical Annealed for Bending and Flaring			.375 to 1.250	9.53 to 31.75	.035 to .120	.89 to 3.05	26	8
SAE-J2833 **HS-90 High Pressure Hydraulic™ Tubing** Electric Resistance Welded, HSLA, Stress Relieve Annealed for Bending and Flaring			.375 to 1.250	9.53 to 31.75	.035 to .120	.89 to 3.05	26	8
SPECIAL SHAPE TUBING								
Shapes include: rounds, squares, rectangles, triangles, hexagons, streamline/teardrops, symmetrical,custom OD/ID shape combinations and non-symmetrical. Inquire about exceptions.		UP TO 40% CARBON STEEL, CHROME-MOLY & HEAT TREATABLE ALLOYS	.250 to 6.000	6.35 to 152.40	.035 to 1.000	.088 to 25.40	75	22

CD: Cold Drawn **HF:** Hot Finished

Value added capabilities: cutting and end finishing available upon request.

Austenitic, Ferritic & Duplex Stainless Steel Tubing

ASTM A and ASME SA Specifications		Grades	OD Range inches	OD Range mm	Wall Range AW=Average Wall / MW=Minimum Wall inches	Wall Range AW=Average Wall / MW=Minimum Wall mm	Max Length ft	Max Length m
PRESSURE TUBING								
-213	**Seamless Austenitic Alloy Steel Boiler, Superheater and Heat Exchanger Tubing** *U-Bending Available*	304/L, 316/L, 317/L 321, 347	.375 to 1.500	9.5 to 38.10	.028 AW to .134 AW	.71 AW to 3.40 AW	130	39
-249	**Welded Austenitic Steel Boiler Superheater and Heat Exchanger Tubing** *U-Bending Available*	304/L, 316/L, 317/L 321, 347 Also available in H and N grades.	.375 to 4.000	9.53 to 101.60	.028 AW to .218 AW	.71 AW to 5.54 AW	130	39
-268	**Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing for General Service** *U-Bending Available*	430, S44660, 430Ti, 439 S44735, S44627, SEA-CURE® AL29-4C®, E-BRITE®	.5000 to 2.000	12.70 to 50.80	.020 AW to .134 AW	.51 AW to 3.40 AW	130	39
-269	**Seamless and Welded Austenitic Stainless Steel General Service Tubing** *U-Bending Available*	304/L/N, 316/L, 317/L 321, 347	**S:** .125 to 1.500 **W:** .188 to 4.000	**S:** 3.18 to 38.10 **W:** 4.78 to 101.60	**S:** .016 AW to .120 AW **W:** .020 AW to .218 AW	**S:** .41 AW to 3.05 AW **W:** .51 AW to 5.54 AW	130	39
-270	**Seamless and Welded Austenitic Stainless Steel Tubing**	304/L, 316/L, AL6XN®	**S:** .125 to 1.250 **W:** .500 to 4.000	**S:** 3.18 to 31.75 **W:** 12.70 to 101.6	**S:** .016 AW to .120 AW **W:** .065 AW to .131 AW	**S:** .41 AW to 3.05 AW **W:** 1.66 AW to 3.33 AW	130	39
-632	**Seamless Austenitic Stainless Steel Tubing for General Service (Small Diameter)**	304/L/N, 316/L/N 321, 347	.125 to 0.500	3.18 to 12.70	.015 AW to .065 AW	.38 AW to 1.65 AW	130	39
-789	**Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service**	2205, 2507	**S:** .375 to 1.500 **W:** .375 to 2.000	**S:** 9.53 to 38.10 **W:** 9.53 to 101.6	**S:** .028 AW to .134 AW **W:** .028 AW to .134 AW	**S:** .71 AW to 3.40 AW **W:** .71 AW to 3.40 AW	130	39
FEEDWATER HEATER TUBING								
-688	**XtraLowStress® Welded Stainless Steel Feedwater Heater Tubing** *U-Bending Available*	304/L/N, 316/L/N 321, 347	.625 to 1.000	15.88 to 25.40	.026 AW to .134 AW	.66 AW to 3.40 AW	130	39
-803	**Welded Ferritic Stainless Steel Feedwater Heater Tubing** *U-Bending Available*	439, AL29-4C®, S44735 SEA-CURE®, S44627, E-BRITE®, S44660	.625 to 1.000	15.88 to 25.40	.028 AW to .134 AW	.71 AW to 3.40 AW	130	39
COMMERCIAL INSTRUMENTATION TUBING								
-213	**Seamless Austenitic Alloy Steel Boiler, Superheater and Heat Exchanger Tubing**	304/L, 316/L	.125 to 1.500	3.18 to 38.10	.016 AW to .120 AW	.41 AW to 3.05 AW	140	42
-269	**Seamless Austenitic Stainless Steel General Service Tubing**	304/L, 316/L	.125 to 1.000	3.18 to 25.40	.016 AW to .109 AW	.41 AW to 2.77 AW	140	42
NUCLEAR INSTRUMENTATION TUBING								
-213	**ASME section III - Class 1&2** See ASTM SB 163 and 167 for alloy 600	304/L, 316/L	.125 to 1.500	3.18 to 38.10	.016 AW to .120 AW	.41 AW to 3.05 AW	140	42
MECHANICAL TUBING								
-511	**Seamless Stainless Steel**	304/L, 316/L	.125 to 1.500	3.18 to 38.10	.016 AW to .120 AW	.41 AW to 3.05 AW	130	39
-554	**Welded Stainless Steel Mechanical Tubing**	304/L, 316L	.500 to 4.000	12.70 to 101.6	.020 AW to .218 AW	.51 AW to 5.54 AW	130	39
PRESSURE TUBING								
-163	**Seamless Nickel and Alloy Condenser and Heat Exchanger Tubing**	800, 825, 600, 625	.375 to 1.500	9.50 to 38.10	.016 AW to .120 AW	.41 AW to 3.05 AW	130	39
-676	**UNS N08367 Welded Tubing**	AL6XN	.250 to 4.000	6.35 to 101.6	.020 AW to .120 AW	.51 AW to 3.05 AW	130	39

S: Seamless **W:** Welded

AL29-4C®, AL6XN®, E-BRITE® and SEA-CURE® are alloys produced by Allegheny.

Other sizes, grades and specifications available upon request. OD/Wall combinations and max length may vary based on producing mill.

Aerospace Stainless Steel & Nickel Alloy Tubing

	Grades	OD Range inches	OD Range mm	Wall Range AW=Average Wall / MW=Minimum Wall inches	Wall Range AW=Average Wall / MW=Minimum Wall mm	Max Length ft	Max Length m
AIRCRAFT SPECIFICATIONS							
SEAMLESS Stainless Steel Aerospace Tubing							
AMS 5564, AMS 5565, AMS 5567, AMS 5569, AMS 5695 (Canceled & non-current specs include AMS-T-6845, Mil-T-6845, AMS-T-8504, Mil-T-8504, AMS-T-8506, Mil-T-8506)	304/L	.125 to 1.00	.40 to 3.04	.016 to .120	.40 to 3.04	40	12
AMS 5557, AMS 5570, AMS 5896, AMS 5897 (Canceled & non-current specs include MIL-T-8606, MIL-T-8808, MIL-T-8973)	321	.125 to 1.00	.40 to 3.04	.016 to .120	.40 to 3.04	40	12
AMS 5557, AMS 5897 (Canceled & non-current specs include MIL-T-8808, MIL-T-8973)	347	.125 to 1.00	.40 to 3.04	.016 to .120	.40 to 3.04	40	12
AMS 5578	625	.125 to 1.00	.40 to 3.04	.016 to .120	.40 to 3.04	40	12
WELDED & DRAWN Stainless Steel Aerospace Tubing							
AMS 5564, AMS 5565, AMS 5566, AMS 5567, AMS 5569 (Canceled & non-current specs include AMS-T-6845, Mil-T-6845, AMS-T-8504, Mil-T-8504, AMS-T-8506, Mil-T-8506)	304/L	.188 to 3.80	4.78 to 96.52	.016 to .218	.40 to 5.53	36	10
AMS 5557, AMS 5576 (Canceled & non-current specs include AMS-T-8606, MIL-T-6737, MIL-T-8606, MIL-T-8808)	321	.188 to 3.80	4.78 to 96.52	.016 to .218	.40 to 5.53	36	10
AMS 5556, AMS 5575 (Canceled & non-current specs include MIL-T-6737, MIL-T-8606, MIL-T-8808)	347	.188 to 3.80	4.78 to 96.52	.016 to .218	.40 to 5.53	36	10
AMS 5581	625	.188 to 3.50	4.78 to 96.52	.016 to .141	.40 to 3.58	36	10
PWA 1065	718	.188 to 2.75	4.78 to 69.85	.016 to .1.36	.40 to 3.45	36	10
TP-718	718	.188 to 2.75	4.78 to 69.85	.016 to .1.36	.40 to 3.45	36	10
AMS 5561, BMS 7-185	21-6-9	.188 to 3.00	4.78 to 76.20	.016 to .110	.40 to 2.79	36	10
AMS 5568	17-7PH®	.188 to 3.75	4.78 to 95.25	.016 to .136	.40 to 3.45	36	10
AMS 5578	Custom 455®	.188 to 2.375	4.78 to 60.33	.016 to .110	.40 to 2.76	36	10

17-7 PH® is an alloy produced by AK Steel. Custom 455® is an alloy produced by Carpenter Specialty Alloys.

Stainless Coil Slitting & Edging

EDGING			
Capabilities	.313 - 3.00" WIDTH	.024 - .187" GAUGE	
Oscillate Wind	6.5 - 9.0" FACE	1400 LB. MAX COIL	
Pancake Wind	60" MAX OD		
#1 Round, Square	.024 - .187" THICKNESS	.313 - 3.00" WIDTH	
#4, #5 DeBurr	.024 - .187" THICKNESS	.313 - 10.00" WIDTH	
Custom Shapes	PER CUSTOMER SPECIFICATIONS		
Grades	304, 316, 347 301 ANNEALED 301 TEMPERED	410 420 430	2205 725CDA A600

SLITTING			
Capabilities	.187 - 48.00"	.024 - .135" GAUGE	
ID	16 -20"		
Max Coil Weight	22500 LBS		
PIW Max	1000		
Oscillate Wind	6.5 - 9.0" FACE	1400 LB. MAX COIL	
Pancake Wind	60" MAX OD		
Grades	201 310, 304, 316 410, 420, 430, 439	446, 458 AL6XN 600, 800	625 2205 725CDA

Need Custom Solutions?
Contact Us, We're your Total Solution Provider.

In 1924, Plymouth Tube began to produce cold drawn tubing at a small, single location in Michigan. Today we provide a wide range of specialty tubing and extruded shapes to global customers from a large network of metal-working facilities with over 1.6 million square feet of manufacturing and office space.

We believe our company is much more than just facilities - it is the sum of the efforts of many people, their abilities, expectations and how they interact with customers, suppliers and each other. We are organized for agility - decentralized enough to be easy to do business with, yet big enough to be a single source supplier. Our well-trained people are working to provide innovative, cost effective and timely manufacturing solutions to help our customers improve their competitiveness.

Our mission is to meet or exceed our customer's expectations. We encourage you to accept our invitation to personally visit our Mills and sales offices, meet the people and observe firsthand the high quality that goes into every product we manufacture for you. Come see us in action!

The PLYMOUTH ADVANTAGE®

Delivery Promise of the Day of Your Choice

At Plymouth, On-Time Delivery Performance is not only judged by how closely we achieve a promised date, but also by how convenient that date is for you. Our flexible production schedules will allow us to ship any day of the week, helping you to optimize your material flow.

We Make It Right

We will ensure that the product you receive from Plymouth is absolutely correct in every way. In the unlikely event you are not satisfied with Plymouth products or services, a Plymouth Mill Representative will be at your facility within 72 hours, or at your earliest convenience, to resolve the satisfaction issues while minimizing any impact on your organization.

Extraordinary Service Value

To meet special customer service needs, we offer value-added services such as Set-Aside Programs, Blocked Footage, Joint Sales Calls, Product Training and Mill Visits. This provides you with a depth of technical service and support that is unmatched in the industry, ultimately leading to the quickest turn-around possible and overall customer satisfaction. Plymouth gains more product and market intelligence in the process, allowing us to offer our customers more value-added benefits.

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