

## CARBON & ALLOY TUBING

FOR UTILITIES, SUPERHEATERS, INDUSTRIAL HEAT TRANSFER,  
OIL AND NATURAL GAS EXPLORATION, AND DRILLING



# bring the heat!

**Lengths up to 86 feet  
Wide range of O.D.s  
and walls to fit your  
specialized  
requirements**

**Ultrasonic full body  
testing capabilities  
in two-, four-, or five-  
direction methods**

**Multi-Lead Ribbed  
(MLR) Tubing with  
rifled I.D.**

**Special end finishing  
available**

**The only domestic  
source that offers both  
Cold Drawn and Hot  
Finished Boiler Tubes**



The leading choice of utilities and boiler industries for decades, Plymouth knows the challenges involved in producing quality tubing that can stand up to the rigors of high pressure, high temperature applications. Plymouth Tube's state-of-the-art manufacturing processes and advanced inspection and testing procedures ensure products that meet the most stringent requirements, such as the Department of Energy's requirements for fossil fuel plants, electric power plants, industrial processing plants and cogeneration facilities.

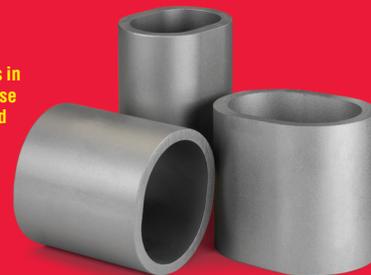
Oil and natural gas manufacturers rely on Plymouth's products for their accessory equipment used in exploration, drilling, and production. They choose Plymouth products for their strength, corrosive resistance, weight reduction and total cost savings. Plymouth products can prolong equipment life cycles and minimize the need for replacement.

An experienced provider to the entire energy industry, Plymouth has the product and market knowledge, and the mill capabilities, to deliver the right solution for tough application requirements.



**Plymouth cold-drawn MLR  
(multi-lead ribbed) tubing  
increases boiler efficiency while  
providing better heat transfer. MLR  
tubing stimulates proper steam flow,  
preventing steam pockets and hot spots  
that will inevitably damage the tube.**

**Drilling and exploration operations in  
the oil and natural gas industries use  
Plymouth tubing for its strength and  
weight reduction characteristics  
in very specialized component  
applications.**



**PLYMOUTH TUBE CO. USA®**

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ASTM/ASME Specifications	Grade		OD Range		Wall Range		Max. Length	
			inches	mm	inches	mm	ft	m

Boiler and Pressure Tubing			(Minimum Wall Thickness)					
-106 Seamless Carbon Steel Tubing for High Pressure Service	A B C	Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20
-179 Seamless Cold Drawn Low Carbon Steel Heat Exchanger & Condenser Tubing		Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20
-192 Seamless Carbon Steel Tubing for High Pressure Service		Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20
-209 Seamless Carbon-Molybdenum Alloy Steel Boiler & Superheater Tubing	T-1 T-1a T-1b	Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20
-210 Seamless Medium Carbon Steel Boiler & Superheater Tubing	A-1 C	Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20
-213 Seamless Alloy Steel Boiler & Superheater Tubing	T-2 T-5 T-11 T-12 T-22	Cold Drawn Hot Finished	1.250 - 5.563 1.900 - 5.000	31.75 - 141.30 48.26 - 127.00	0.149 - 0.650 0.180 - 0.570	3.78 - 16.51 4.57 - 14.48	86 65	26 20

Oil and Gas (Mechanical) Tubing			(Average Wall Thickness)					
-519/API Seamless Carbon & Alloy Steel Tubing	Carbon: 1008 to 1070, 1500 Alloy: 4100 5100 8600 series	Cold Drawn Hot Finished	0.750 - 5.563 1.875 - 5.000	19.05 - 141.30 47.63 - 127.00	0.020 - 0.750 0.200 - 1.000	0.51 - 19.05 5.08 - 25.40	86 65	26 20

## Boiler Tubing

- Seamless cold drawn carbon and alloy steel boiler and superheater tubing
- Seamless hot finished carbon and alloy steel boiler and superheater tubing

### Specifications

Plymouth manufactures according to ASTM/ASME specifications among many other international standards (BS, DIN, JIS).

### Tolerances

#### Seamless Hot Finish Tolerance Variations per ASTM A450<sup>1</sup>

Wall Tolerance (Over 0.180" Wall)

3" OD & under	+22% / -0%
Over 3" OD	+22% / -0%

OD Tolerance (All Walls)

3" OD & under	+0.016" / -0.016"
Over 3" OD	+0.016" / -0.024"

#### Seamless Cold Finish Tolerances per ASTM A450<sup>1</sup>

Wall Tolerance (Over 0.180" Wall)

1½" OD & under	+20% / -0%
Over 1½" OD	+22% / -0%

OD Tolerance (All Walls)

Over 1½" OD to 2" OD, excl.	+0.008" / -0.008"
2" to 2½" OD, excl.	+0.010" / -0.010"
2½" to 3" OD, excl.	+0.012" / -0.012"
3" to 4" OD, incl.	+0.015" / -0.015"
Over 4" OD	+0.015" / -0.025"

<sup>1</sup>Extracted, with permission, from the Annual Book of ASTM Standards. ©American Society for Testing and Materials.

### Applications

- Boilers
- Heat exchangers
- Superheaters
- Gas and steam turbines
- HRSGs

## Pressure Tubing

- Seamless carbon and alloy steel heat exchanger and condenser tubing
- Seamless carbon and alloy steel low temperature service tubing

### Applications

- Heat exchangers
- Condenser tubing

## Oil and Gas (Mechanical) Tubing

- Cold drawn seamless carbon and alloy steel tubing
- Hot finished seamless carbon and alloy steel tubing

### Specifications

Plymouth manufactures according to ASTM/ASME and customer specifications, and ensures compliance with API standards.

### Grades

4130	4140
8620	8630
5100 Series	

### Applications

- Sucker rod couplings
- Pump barrels
- Pipe recovery tools
- Gas lift mandrels
- Perforator guns
- Pup joints
- Blast joints
- Stator tubes
- Other accessory products

## Value-added Services

- Quench and temper
- Heat treating
- Special end finishing available
- Small minimum order quantities
- Meet specifications of the American Petroleum Institute (API)
- Local inventory of standard product at Plymouth distributors



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