

# Steel Tube Sizing Chart

Quick Reference Guide

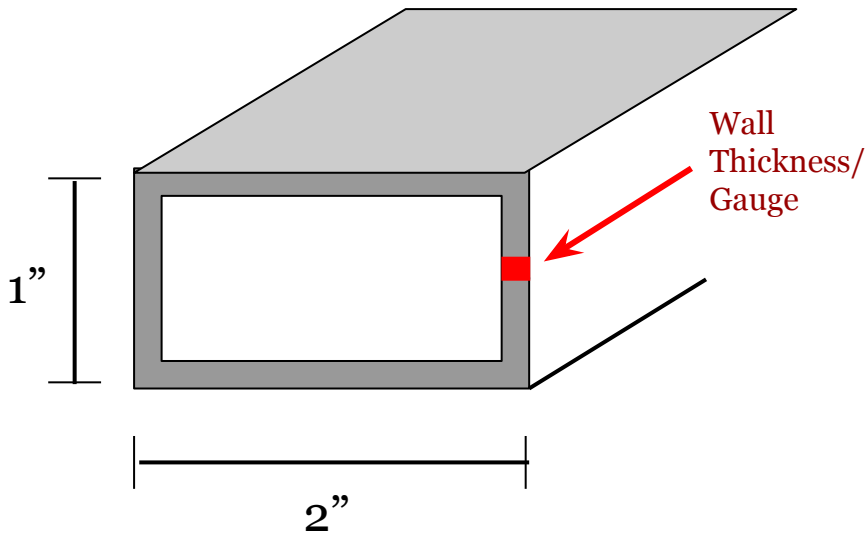
**McHone**  **Industries**

Contract Metal Manufacturing

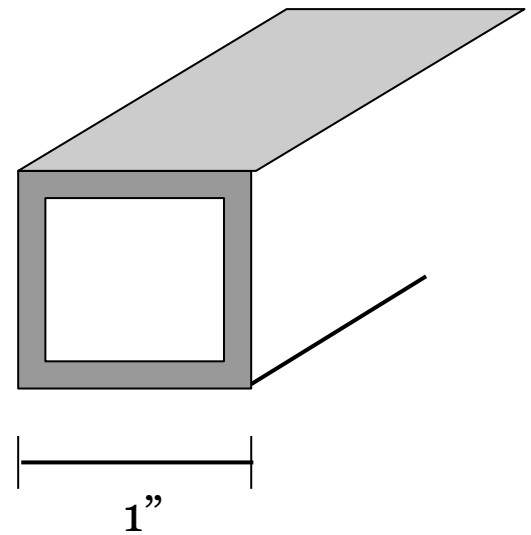
Established 1974

# Standard Tube Shapes

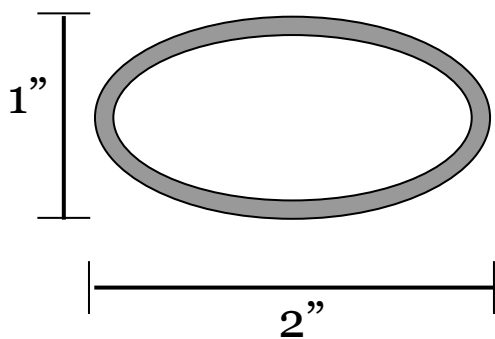
As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.



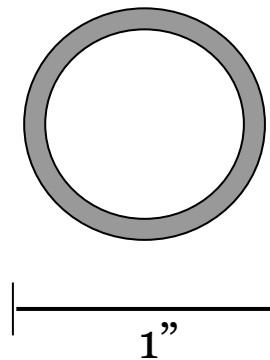
**Rectangular**



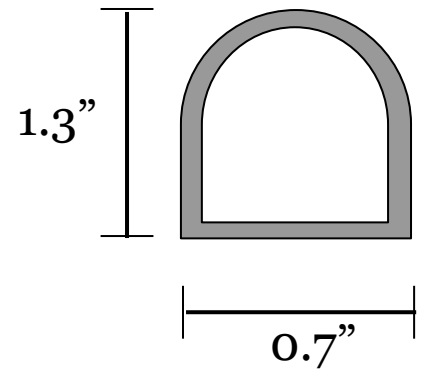
**Square**



**Oval**



**Round**



**"D" Tube**

**Outer Dimension / Outer Diameter** - Measures the length and width of the tube from the outside of the wall rather than the inside.

**Wall Thickness / Gauge** - Two ways of measuring the thickness of the tube's wall. Wall thickness is commonly measured in inches or millimeters, while gauge is a standard integer. e.g. 0.049 inch wall thickness = 18 gauge

**Weight** - Measured in pounds per foot; indicates heaviness of a tube with that specific outer dimension and gauge.

# Weight & Density

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

## Density

**Mild Carbon Steel - 0.284 pounds per cubic inch (lb/in<sup>3</sup>)**

**304 Stainless Steel - 0.289 lb/in<sup>3</sup>**

**6061 Aluminum - 0.098 lb/in<sup>3</sup>**

## Calculating Tube Weights

O.D. - Outer Diameter

W.T. - Wall Thickness

LS - Long Side

SS - Short Side

### Mild Carbon Steel

Round Tubing:  $10.700 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$

Square:  $13.630 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$  (Diameter measured across the flats)

Rectangular:  $13.630 \times [(\text{LS} + \text{SS} / 2) - \text{W.T.}] \times \text{W.T.}$

### 304 Stainless Steel

Round Tubing:  $10.930 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$

Square:  $13.920 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$  (Diameter measured across the flats)

Rectangular:  $13.920 \times [(\text{LS} + \text{SS} / 2) - \text{W.T.}] \times \text{W.T.}$

### 6061 Aluminum

Round Tubing:  $3.690 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$

Square:  $4.704 \times (\text{O.D.} - \text{W.T.}) \times \text{W.T.}$  (Diameter measured across the flats)

Rectangular:  $4.704 \times [(\text{LS} + \text{SS} / 2) - \text{W.T.}] \times \text{W.T.}$

# Round Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) | Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|--------------------------|----------------|-------------------------|
| 0.500                    | 22 gauge       | 0.020                   | 1.000                    | 22 gauge       | 0.020                   |
|                          | 20 gauge       | 0.030                   |                          | 20 gauge       | 0.030                   |
|                          | 18 gauge       | 0.049                   |                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |                          | 16 gauge       | 0.065                   |
| 0.625                    | 22 gauge       | 0.020                   | 1.090                    | 14 gauge       | 0.083                   |
|                          | 20 gauge       | 0.030                   |                          | 22 gauge       | 0.020                   |
|                          | 18 gauge       | 0.049                   |                          | 20 gauge       | 0.030                   |
|                          | 16 gauge       | 0.065                   |                          | 18 gauge       | 0.049                   |
| 0.750                    | 22 gauge       | 0.020                   | 1.125                    | 16 gauge       | 0.065                   |
|                          | 20 gauge       | 0.030                   |                          | 14 gauge       | 0.083                   |
|                          | 18 gauge       | 0.049                   |                          | 22 gauge       | 0.020                   |
|                          | 16 gauge       | 0.065                   |                          | 20 gauge       | 0.030                   |
| 0.875                    | 22 gauge       | 0.020                   | 1.190                    | 18 gauge       | 0.049                   |
|                          | 20 gauge       | 0.030                   |                          | 16 gauge       | 0.065                   |
|                          | 18 gauge       | 0.049                   |                          | 14 gauge       | 0.083                   |
|                          | 16 gauge       | 0.065                   |                          | 22 gauge       | 0.025                   |
| 0.946                    | 22 gauge       | 0.020                   | 1.190                    | 20 gauge       | 0.030                   |
|                          | 20 gauge       | 0.030                   |                          | 18 gauge       | 0.049                   |
|                          | 18 gauge       | 0.049                   |                          | 16 gauge       | 0.065                   |
|                          | 16 gauge       | 0.065                   |                          | 14 gauge       | 0.083                   |
|                          | 14 gauge       | 0.083                   |                          |                |                         |

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# Round Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) | Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |          |
|--------------------------|----------------|-------------------------|--------------------------|----------------|-------------------------|----------|
| 1.225                    | 22 gauge       | 0.025                   | 1.575 (40mm)             | 20 gauge       | 0.035                   |          |
|                          | 20 gauge       | 0.030                   |                          | 18 gauge       | 0.049                   |          |
|                          | 18 gauge       | 0.049                   |                          | 16 gauge       | 0.065                   |          |
|                          | 16 gauge       | 0.065                   |                          | 14 gauge       | 0.083                   |          |
|                          | 14 gauge       | 0.083                   |                          | 1.625          | 20 gauge                | 0.035    |
| 1.250                    | 22 gauge       | 0.025                   | 18 gauge                 |                | 0.049                   |          |
|                          | 20 gauge       | 0.030                   | 16 gauge                 |                | 0.065                   |          |
|                          | 18 gauge       | 0.049                   | 14 gauge                 |                | 0.083                   |          |
|                          | 16 gauge       | 0.065                   | 2.000                    |                | 18 gauge                | 0.042    |
|                          | 14 gauge       | 0.083                   |                          | 16 gauge       | 0.065                   |          |
| 1.312                    | 20 gauge       | 0.030                   |                          | 14 gauge       | 0.083                   |          |
|                          | 18 gauge       | 0.049                   |                          | 2.460          | 18 gauge                | 0.049    |
|                          | 16 gauge       | 0.065                   |                          |                | 16 gauge                | 0.065    |
|                          | 14 gauge       | 0.083                   | 14 gauge                 |                | 0.083                   |          |
|                          | 1.500          | 20 gauge                | 0.030                    |                | 2.500                   | 18 gauge |
| 18 gauge                 |                | 0.049                   | 16 gauge                 |                |                         | 0.065    |
| 16 gauge                 |                | 0.065                   | 14 gauge                 | 0.083          |                         |          |
| 14 gauge                 |                | 0.083                   |                          |                |                         |          |
|                          |                |                         |                          |                |                         |          |

# Square Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) | Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|--------------------------|----------------|-------------------------|
| 0.500                    | 22 gauge       | 0.020                   | 1.000                    | 22 gauge       | 0.025                   |
|                          | 20 gauge       | 0.035                   |                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |                          | 16 gauge       | 0.065                   |
| 0.625                    | 22 gauge       | 0.020                   | 1.250                    | 14 gauge       | 0.083                   |
|                          | 20 gauge       | 0.035                   |                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |                          | 16 gauge       | 0.065                   |
| 0.750                    | 22 gauge       | 0.020                   | 1.500                    | 14 gauge       | 0.083                   |
|                          | 20 gauge       | 0.035                   |                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |                          | 16 gauge       | 0.065                   |
| 0.812                    | 22 gauge       | 0.020                   | 2.000                    | 18 gauge       | 0.049                   |
|                          | 20 gauge       | 0.035                   |                          | 16 gauge       | 0.065                   |
|                          | 18 gauge       | 0.049                   |                          | 14 gauge       | 0.083                   |
|                          | 16 gauge       | 0.065                   |                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |                          | 14 gauge       | 0.083                   |

# Rectangular Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|
| 0.530 x 1.030            | 22 gauge       | 0.029                   |
|                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 0.750 x 1.000            | 22 gauge       | 0.029                   |
|                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 0.500 x 1.250            | 22 gauge       | 0.029                   |
|                          | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 0.870 x 1.975            | 20 gauge       | 0.065                   |
|                          | 18 gauge       | 0.083                   |
|                          | 16 gauge       | 0.049                   |
|                          | 14 gauge       | 0.065                   |

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# Rectangular Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|
| 1.000 x 1.500            | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 1.000 x 2.000            | 20 gauge       | 0.035                   |
|                          | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 1.500 x 2.000            | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 1.964 x 1.181            | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 2.105 x 1.000            | 18 gauge       | 0.049                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |



# Oval Tubing

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|
| 0.787 x 1.345            | 22 gauge       | 0.025                   |
|                          | 20 gauge       | 0.030                   |
|                          | 18 gauge       | 0.042                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |
| 0.875 x 1.500            | 20 gauge       | 0.030                   |
|                          | 18 gauge       | 0.042                   |
|                          | 16 gauge       | 0.065                   |
|                          | 14 gauge       | 0.083                   |

# “D” Tubing

| Outer Dimension (inches) | Gauge (inches) | Wall Thickness (inches) |
|--------------------------|----------------|-------------------------|
| 0.787 x 1.345            | 22 gauge       | 0.025                   |
|                          | 20 gauge       | 0.030                   |
|                          | 18 gauge       | 0.042                   |

For full information on welded steel tube ASTM standards and testing, see the [ASTM A554 Specification Sheet](#).

For more information on metal tube sizing and weights, please [call or email us](#) at  
McHone Industries.

As long as the tube dimensions are 2" x 2" or under, we can manufacture any shape you need.

