



PIPE AND TUBE

ASTM A513 MECHANICAL TUBING

Maruichi Leavitt Pipe & Tube, LLC 1717 W. 115th St., Chicago, IL 60643 Phone 773.239.7700 maruichi-leavitt.com

YOUR COMPLETE SOURCE FOR ELECTRIC WELDED TUBULAR PRODUCTS

THEORETICAL WEIGHT PER FOOT FACTORS

| Outside Dimension | | Nominal Wall Thickness | | | | | | | | |
|-------------------|---------------|------------------------|-------|-------|-------|-------|------------|-------|-------|-------|
| Square | Rectangle | 0.028 | 0.035 | 0.049 | 0.065 | 0.072 | 0.083 | 0.095 | 0.109 | 0.120 |
| | | 22 Ga | 20 Ga | 18 Ga | 16 Ga | 15 Ga | 14 Ga | 13 Ga | 12 Ga | 11 Ga |
| 1/2 x 1/2 | 3/8 x 5/8 | 0.180 | 0.221 | 0.301 | 0.385 | | | | | |
| 5/8 x 5/8 | | 0.227 | 0.281 | 0.384 | 0.495 | | | | | |
| 3/4 x 3/4 | 1/2 x 1 | 0.275 | 0.340 | 0.467 | 0.606 | 0.664 | 0.753 | 0.846 | 0.950 | 1.028 |
| 13/16 x 13/16 | 5/8 x 1 | 0.299 | 0.370 | 0.509 | 0.661 | 0.725 | 0.823 | | | |
| 7/8 x 7/8 | 3/4 x 1 | 0.323 | 0.400 | 0.550 | 0.716 | 0.786 | 0.894 | | | |
| | 7/8 x 1 | 0.346 | 0.430 | 0.592 | 0.771 | 0.847 | 0.965 | | | |
| 1 x 1 | 1/2 x 1-1/2 | 0.370 | 0.459 | 0.634 | 0.827 | 0.909 | 1.035 | 1.169 | 1.321 | 1.436 |
| 1-1/8 x 1-1/8 | 3/4 x 1-1/2 | | | 0.717 | 0.937 | 1.031 | 1.176 | 1.331 | 1.506 | 1.640 |
| 1-1/4 x 1-1/4 | 1 x 1-1/2 | | | 0.800 | 1.048 | 1.153 | 1.317 | 1.492 | 1.691 | 1.844 |
| 1-1/2 x 1-1/2 | 1 x 2 | | | 0.967 | 1.269 | 1.398 | 1.600 | 1.815 | 2.062 | 2.252 |
| | 1-1/4 x 2 | | | 1.050 | 1.379 | 1.521 | 1.741 | 1.977 | 2.247 | 2.456 |
| 1-3/4 x 1-3/4 | 1-1/2 x 2 | | | | 1.490 | 1.643 | 1.882 | 2.138 | 2.433 | 2.660 |
| 1-7/8 1-7/8 | 1-1/4 x 2-1/2 | | | | 1.600 | 1.765 | 2.023 | 2.300 | 2.618 | 2.864 |
| 2 x 2 | 1 x 3 | | | | 1.711 | 1.888 | Structural | | | |

This table is based on commonly used sizes. Other sizes are within our production capabilities. Not all size/gauge combinations run regularly. We invite your inquiry.

CORNER RADIUS TOLERANCE

| Squares and Equivalent Rectangles | Wall Thickness | Radius Tolerance Inches |
|-----------------------------------|----------------|-------------------------|
| 1/2" to 2" | 18 (0.049) | 3/16 to 5/64 |
| 1/2" to 2" | 16 (0.065) | 1/16 to 7/64 |
| 3/4" to 2" | 14 (0.083) | 5/64 to 1/8 |
| 3/4" to 2" | 13 (0.095) | 3/32 to 5/32 |
| 3/4" to 2" | 12 (0.109) | 1/8 to 13/64 |
| 3/4" to 2" | 11 (0.120) | 1/8 to 7/32 |

Wall Thickness Tolerance

± 10% of spec. Nominal Wall Thickness

Note: Reference: ASTM A-513 Latest.

OUTSIDE DIMENSION TOLERANCE*

| Largest Outside | Tol. Inches |
|-----------------------|-------------|
| 1/2" to 5/8" Incl. | ±0.004 |
| Over 5/8" to 1-1/8" | ±0.005 |
| Over 1-1/8" to 1-1/2" | ±0.006 |
| Over 1-1/2" to 2" | ±0.008 |
| Over 2" to 3" | ±0.010 |

*Measured at Least 2" From the end of the tube

Straightness Tolerance

Max. 1/16" in 3'

Squareness of Sides

Max. = Widest side (in) x 0.006"

TWIST TOLERANCE

| Specified Dimension longest side, Inches | Maximum Twist in 3 Feet |
|--|-------------------------|
| 1/2 | 0.032" |
| Over 1/2 to 1-1/2 Incl. | 0.050" |
| Over 1-1/2 to 2-1/2 Incl. | 0.062" |
| Over 2-1/2" | 0.075" |

LENGTH TOLERANCE

| Length | Tol. Inches |
|-----------------|-------------|
| 1' to 3' Incl. | ± 1/16 |
| Over 3' to 12' | ± 3/32 |
| Over 12' to 20' | ± 1/8 |
| Over 20' to 30' | ± 3/16 |

Maruichi Leavitt mechanical tubing is produced in accordance with the mechanical and chemical property requirements of ASTM A513

All above sizes are not rolled regularly and subject to minimum orders. Please send a quote to tubeman@leavitt-tube.com for more information



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THEORETICAL WEIGHT PER FOOT FACTORS

| Outside Diameter | | Nominal Wall Thickness | | | | | | | | | |
|------------------|----------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|
| Decimal | Fraction | 0.028 22 Ga | 0.035 20 Ga | 0.042 19 Ga | 0.049 18 Ga | 0.065 16 Ga | 0.072 15 Ga | 0.083 14 Ga | 0.095 13 Ga | 0.109 12 Ga | 0.120 11Ga |
| 0.375 | 3/8 | 0.104 | 0.127 | 0.150 | 0.171 | 0.215 | | | | | |
| 0.406 | | 0.113 | 0.139 | 0.163 | 0.187 | 0.237 | | | | | |
| 0.438 | 7/16 | 0.123 | 0.151 | 0.178 | 0.204 | 0.259 | | | | | |
| 0.500 | 1/2 | 0.141 | 0.174 | 0.206 | 0.236 | 0.302 | | | | | |
| 0.540 | | 0.153 | 0.189 | 0.224 | 0.257 | 0.330 | | | | | |
| 0.562 | | 0.160 | 0.197 | 0.233 | 0.269 | 0.345 | | | | | |
| 0.625 | 5/8 | 0.179 | 0.221 | 0.262 | 0.302 | 0.389 | 0.426 | 0.481 | | | |
| 0.675 | | 0.194 | 0.239 | 0.284 | 0.328 | 0.424 | 0.464 | 0.525 | | | |
| 0.750 | 3/4 | 0.216 | 0.268 | 0.318 | 0.367 | 0.476 | 0.522 | 0.592 | 0.665 | 0.747 | 0.808 |
| 0.812 | 13/16 | 0.235 | 0.291 | 0.346 | 0.400 | 0.519 | 0.570 | 0.647 | 0.728 | 0.819 | 0.888 |
| 0.875 | 7/8 | 0.254 | 0.314 | 0.374 | 0.433 | 0.563 | 0.618 | 0.703 | 0.792 | 0.893 | 0.969 |
| 1.000 | 1 | 0.291 | 0.361 | 0.430 | 0.498 | 0.650 | 0.714 | 0.814 | 0.919 | 1.038 | 1.129 |
| 1.062 | 1-1/16 | | | | 0.531 | 0.693 | 0.762 | 0.869 | 0.982 | 1.110 | 1.208 |
| 1.125 | 1-1/8 | | | | 0.564 | 0.737 | 0.810 | 0.925 | 1.046 | 1.184 | 1.289 |
| 1.250 | 1-1/4 | | | | 0.629 | 0.823 | 0.907 | 1.035 | 1.173 | 1.330 | 1.450 |
| 1.375 | 1-3/8 | | | | 0.695 | 0.910 | 1.003 | 1.146 | 1.300 | 1.475 | 1.610 |
| 1.437 | 1-7/16 | | | | 0.727 | 0.953 | 1.051 | 1.201 | 1.363 | 1.547 | 1.689 |
| 1.500 | 1-1/2 | | | | 0.760 | 0.997 | 1.099 | 1.257 | 1.427 | 1.621 | 1.770 |
| 1.600 | | | | | 0.812 | 1.067 | 1.176 | 1.346 | 1.528 | 1.737 | 1.899 |
| 1.625 | 1-5/8 | | | | 0.826 | 1.084 | 1.195 | 1.368 | 1.554 | 1.766 | 1.931 |
| 1.660 | | | | | 0.844 | 1.108 | 1.222 | 1.399 | 1.589 | 1.807 | 1.976 |
| 1.750 | 1-3/4 | | | | 0.891 | 1.171 | 1.292 | 1.479 | 1.681 | 1.912 | 2.091 |
| 1.875 | 1-7/8 | | | | 0.956 | 1.258 | 1.388 | 1.590 | 1.808 | 2.058 | 2.251 |
| 2.000 | 2 | | | | 1.022 | 1.345 | 1.484 | 1.701 | 1.935 | 2.203 | 2.412 |
| 2.125 | 2-1/8 | | | | 1.087 | 1.431 | 1.580 | 1.812 | 2.062 | 2.349 | 2.572 |
| 2.250 | 2-1/4 | | | | 1.153 | 1.518 | 1.676 | 1.923 | 2.189 | 2.495 | 2.732 |
| 2.375 | 2-3/8 | | | | 1.218 | 1.605 | 1.773 | 2.034 | 2.315 | 2.640 | 2.893 |
| 2.500 | 2-1/2 | | | | 1.284 | 1.692 | 1.869 | 2.145 | 2.442 | 2.786 | 3.053 |
| 2.625 | 2-5/8 | | | | 1.349 | 1.779 | 1.965 | 2.255 | 2.569 | 2.932 | 3.213 |
| 2.750 | 2-3/4 | | | | 1.415 | 1.866 | 2.061 | 2.366 | 2.696 | 3.077 | 3.374 |

This table is based on commonly used sizes. Other sizes are within Maruichi Leavitt production capabilities. We invite your inquiry.

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| Hot Rolled | |
|-------------------------------------|--------------------|
| OUTSIDE DIMENSION TOLERANCE* | |
| Largest Outside | Tol. Inches |
| 1/2" to 1-1/8" Incl. | ±0.0035 |
| Over 1-1/8" to 2" | ±0.005 |
| Over 2" to 2-1/2" | ±0.006 |
| Over 2-1/2" | ±0.008 |
| Wall Thickness Tolerance | |
| Refer to ASTM A-513 Table 6 | |

| Cold Rolled | |
|--|--------------------|
| OUTSIDE DIMENSION TOLERANCE* | |
| Largest Outside | Tol. Inches |
| 3/8" to 5/8" Incl. | ±0.003 |
| Over 5/8" to 1-1/8" | ±0.0035 |
| Over 1-1/8" to 2" | ±0.005 |
| Over 2" to 2-1/2" | ±0.006 |
| Over 2-1/2" | ±0.008 |
| Wall Thickness Tolerance | |
| Refer to ASTM A-513 Table 11 | |
| *Measured at Least 2" From the end of the tube | |

| Straightness Tolerance | |
|------------------------|--|
| Max. = 0.010" Per Foot | |

| LENGTH TOLERANCE | |
|------------------|--------------------|
| Length | Tol. Inches |
| 6" to under 12" | ± 1/16 |
| 12" to under 48" | ± 1/16 |
| 48" to under 10' | ± 1/8 |
| 10' to 24' | ± 1/4 |

Note: Reference: ASTM A-513 Latest.

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