

D.O.M. STEEL TUBING TOLERANCES

DIAMETER TOLERANCES Drawn over mandrel, ERW Round Mechanical Steel Tubing

O.D. SIZE RANGE (IN.)	O.D. (IN.)		I.D. (IN.)	
	OVER	UNDER	OVER	UNDER
Up to 0.500"	0.004"	0.000"		
0.500" to 1.669" incl.	0.005"	0.000"	0.000"	0.005"
1.700" to 2.009" incl.	0.006"	0.000"	0.000"	0.006"
2.100" to 2.499" incl.	0.007"	0.000"	0.000"	0.007"
2.500" to 2.899" incl.	0.008"	0.000"	0.000"	0.008"
2.900" to 3.299" incl.	0.009"	0.000"	0.000"	0.009"
3.300" to 3.699" incl.	0.010"	0.000"	0.000"	0.010"
3.700" to 4.009" incl.	0.011"	0.000"	0.000"	0.011"
4.100" to 4.499" incl.	0.012"	0.000"	0.000"	0.012"
4.500" to 4.899" incl.	0.013"	0.000"	0.000"	0.013"
4.900" to 5.299" incl.	0.014"	0.000"	0.000"	0.014"
5.300" to 5.549" incl.	0.015"	0.000"	0.000"	0.015"
5.550" to 5.999" incl.	0.010"	0.010"	0.010"	0.010"
6.000" to 6.499" incl.	0.013"	0.013"	0.013"	0.013"
6.500" to 6.999" incl.	0.015"	0.015"	0.015"	0.015"
7.000" to 7.499" incl.	0.018"	0.018"	0.018"	0.018"
7.500" to 7.999" incl.	0.020"	0.020"	0.020"	0.020"
8.000" to 8.499" incl.	0.023"	0.023"	0.023"	0.023"
8.500" to 8.999" incl.	0.025"	0.025"	0.025"	0.025"
8.500" to 8.999" incl.	0.028"	0.028"	0.028"	0.028"
9.500" to 9.999" incl.	0.030"	0.030"	0.030"	0.030"
10.000" to 10.999" incl.	0.034"	0.034"	0.034"	0.034"
11.000" to 11.999" incl.	0.035"	0.035"	0.035"	0.035"
12.000" to 12.999" incl.	0.037"	0.037"	0.037"	0.037"

The ovality will be within the tolerances listed on the left except when the wall thickness is less than 3% of the O.D.. In such cases, the additional ovality will be as follows, but the mean diameter will be within the specified tolerance:

O.D. (IN.)	ADDITIONAL OVALITY TOLERANCE (IN.)	O.D. (IN.)	ADDITIONAL OVALITY TOLERANCE (IN.)
Up to 2" incl.	0.010"	Over 7" to 8" incl.	0.040"
Over 2" to 3" incl.	0.015"	Over 8" to 9" incl.	0.045"
Over 3" to 4" incl.	0.020"	Over 9" to 10" incl.	0.050"
Over 4" to 5" incl.	0.025"	Over 10" to 11" incl.	0.055"
Over 5" to 6" incl.	0.030"	Over 11" to 12" incl.	0.060"
Over 6" to 7" incl.	0.035"	Over 12" to 12.5" incl.	0.065"

TYPICAL MINIMUM TENSILE PROPERTIES (psi), Drawn Over Mandrel, As Drawn 1020, 1026

GRADE	1020	1026
ULTIMATE	70,000	85,000
YIELD	60,000	75,000
% ELONGATION – 2" (FULL SECTION)	10	8
TYPICAL HARDNESS – MINIMUM	B – 80	B – 85

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WALL THICKNESS TOLERANCES Drawn Over Mandrel, ERW Round Mechanical Steel Tubing

WALL THICKNESS (IN.)	O.D. TUBES (IN.)			
	0.375" TO 0.875"	0.875" TO 1.875"	1.875" TO 3.750"	3.750" TO 12.500"
0.028"	+0.002"	+0.002"	+0.002"	
	to 0.002"	to 0.002"	to 0.002"	
0.035"	+0.002"	+0.002"	+0.002"	
	to 0.002"	to 0.002"	to 0.002"	
0.049"	+0.002"	+0.002"	+0.002"	
	to 0.002"	to 0.003"	to 0.003"	
0.065"	+0.002"	+0.002"	+0.002"	+0.004"
	to 0.002"	to 0.003"	to 0.003"	to 0.005"
0.083"	+0.002"	+0.002"	+0.003"	+0.004"
	to 0.002"	to 0.003"	to 0.003"	to 0.005"
0.095"	+0.002"	+0.002"	+0.003"	+0.005"
	to 0.002"	to 0.003"	to 0.003"	to 0.005"
0.109"	+0.002"	+0.002"	+0.003"	+0.004"
	to 0.002"	to 0.003"	to 0.003"	to 0.005"
0.120"	+0.003"	+0.002"	+0.003"	+0.004"
	to 0.003"	to 0.003"	to 0.003"	to 0.005"
0.134"		+0.002"	+0.003"	+0.005"
		to 0.003"	to 0.003"	to 0.005"
0.148"		+0.002"	+0.003"	+0.005"
		to 0.004"	to 0.003"	to 0.005"
0.165"		+0.002"	+0.003"	+0.005"
		to 0.004"	to 0.004"	to 0.006"
0.180"		+0.004"	+0.003"	+0.006"
		to 0.004"	to 0.004"	to 0.006"
0.203"		+0.004"	+0.004"	+0.006"
		to 0.005"	to 0.005"	to 0.007"
0.220"			+0.004"	+0.007"
			to 0.006"	to 0.007"

WALL THICKNESS (IN.)	O.D. TUBES (IN.)			
	0.375" TO 0.875"	0.875" TO 1.875"	1.875" TO 3.750"	3.750" TO 12.500"
0.238"			+0.005"	+0.007"
			to 0.006"	to 0.007"
0.259"			+0.005"	+0.007"
			to 0.006"	to 0.007"
0.284"			+0.005"	+0.007"
			to 0.006"	to 0.007"
0.300"			+0.006"	+0.008"
			to 0.008"	to 0.008"
0.320"			+0.007"	+0.008"
			to 0.007"	to 0.008"
0.344"			+0.008"	+0.009"
			to 0.008"	to 0.009"
0.375"				+0.009"
				to 0.009"
0.400"				+0.010"
				to 0.010"
0.438"				+0.011"
				to 0.011"
0.480"				+0.012"
				to 0.012"
0.531"				+0.013"
				to 0.013"
0.563"				+0.013"
				to 0.013"
0.580"				+0.014
				to 0.014

For intermediate wall: Use the tolerance for the nearest listed wall. If the intermediate wall falls equally between two listed walls, use the greater tolerance.

For all your Mechanical Tubing and Chrome Bar needs