



**DRAWN OVER MANDREL (DOM) MECHANICAL TUBING - ASTM 513 TYPE 5**

**Diameter Tolerances (inches)**

**Notes:** Measurements for diameter are to be taken at least 2 in. from the ends of the tubes. Our typical inventory is purchased to OD & ID dimensions. Although we can special order material made to OD & Wall dimensions.

OD Size Range (a)	Wall Percent of OD	OD, in. (b,c)		ID, in. (b,c)	
		Over	Under	Over	Under
Up to 0.499	All	0.004	0.000	—	—
0.500-1.699	All	0.005	0.000	0.000	0.005
1.700-2.099	All	0.006	0.000	0.000	0.006
2.100-2.499	All	0.007	0.000	0.000	0.007
2.500-2.899	All	0.008	0.000	0.000	0.008
2.900-3.299	All	0.009	0.000	0.000	0.009
3.300-3.699	All	0.010	0.000	0.000	0.010
3.700-4.099	All	0.011	0.000	0.000	0.011
4.100-4.499	All	0.012	0.000	0.000	0.012
4.500-4.899	All	0.013	0.000	0.000	0.013
4.900-5.299	All	0.014	0.000	0.000	0.014
5.300-5.549	All	0.015	0.000	0.000	0.015
5.550-5.999	Under 6	0.010	0.010	0.010	0.010
	6 and Over	0.009	0.009	0.009	0.009
6.000-6.499	Under 6	0.013	0.013	0.013	0.013
	6 and Over	0.010	0.010	0.010	0.010
6.500-6.999	Under 6	0.015	0.015	0.015	0.015
	6 and Over	0.012	0.012	0.012	0.012
7.000-7.499	Under 6	0.018	0.018	0.018	0.018
	6 and Over	0.013	0.013	0.013	0.013
7.500-7.999	Under 6	0.020	0.020	0.020	0.020
	6 and Over	0.015	0.015	0.015	0.015
8.000-8.499	Under 6	0.023	0.023	0.023	0.023
	6 and Over	0.016	0.016	0.016	0.016
8.500-8.999	Under 6	0.025	0.025	0.025	0.025
	6 and Over	0.017	0.017	0.017	0.017
9.000-9.499	Under 6	0.028	0.028	0.028	0.028
	6 and Over	0.019	0.019	0.019	0.019
9.500-9.999	Under 6	0.030	0.030	0.030	0.030
	6 and Over	0.020	0.020	0.020	0.020
10.000-10.999	All	0.034	0.034	0.034	0.034
11.000-11.999	All	0.035	0.035	0.035	0.035
12.000-12.999	All	0.036	0.036	0.036	0.036
13.000-13.999	All	0.037	0.037	0.037	0.037
14.000-14.999	All	0.038	0.038	0.038	0.038

(a) Tubing, flash in or flash controlled which is further processed without mandrel to obtain tolerances closer than those shown in ASTM A513 tables 4 and 8.

(b) The ovality shall be within the above tolerances except when the wall thickness is less than 3% of the outside diameter, in such cases see table 8.6.2

(c) Tubing produced to outside diameter and wall thickness, or inside diameter and wall thickness, or outside diameter and inside diameter, by DOM to obtain tolerances closer than those shown in tables 4 and 8 and no dimensional indication of inside diameter flash.

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**Wall Thickness Tolerances (inches)**

Wall Thickness		Outside Diameter, In. (a)							
		3/8 to 7/8 incl.		Over 7/8 to 1-7/8 incl.		Over 1-7/8 to 3-3/4 incl.		Over 3-3/4 to 15 incl.	
in. (a)	Bwg (b)	Wall Thickness Tolerances, in.,(a,c) ±							
		+	-	+	-	+	-	+	-
0.035	20	0.002	0.002	0.002	0.002	0.002	0.002		
0.049	18	0.002	0.002	0.002	0.003	0.002	0.003		
0.065	16	0.002	0.002	0.002	0.003	0.002	0.003	0.004	0.004
0.083	14	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004
0.095	13	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004
0.109	12	0.002	0.003	0.002	0.004	0.003	0.003	0.005	0.005
0.120	11	0.003	0.003	0.002	0.004	0.003	0.003	0.005	0.005
0.134	10	...	...	0.002	0.004	0.003	0.003	0.005	0.005
0.148	9	...	...	0.002	0.004	0.003	0.003	0.005	0.005
0.165	8	...	...	0.003	0.004	0.003	0.004	0.005	0.005
0.180	7	...	...	0.004	0.004	0.003	0.005	0.006	0.006
0.203	6	...	...	0.004	0.005	0.004	0.005	0.006	0.006
0.220	5	...	...	0.004	0.006	0.004	0.006	0.007	0.007
0.238	4	...	...	0.005	0.006	0.005	0.006	0.007	0.007
0.259	3	...	...	0.005	0.006	0.005	0.006	0.007	0.007
0.284	2	...	...	0.005	0.006	0.005	0.006	0.007	0.007
0.300	1	...	...	0.006	0.006	0.006	0.006	0.008	0.008
0.320		...	...	0.007	0.007	0.007	0.007	0.008	0.008
0.344		...	...	0.008	0.008	0.008	0.008	0.009	0.009
0.375		...	...	...	...	0.009	0.009	0.009	0.009
0.400		...	...	...	...	0.010	0.010	0.010	0.010
0.438		...	...	...	...	0.011	0.011	0.011	0.011
0.460		...	...	...	...	0.012	0.012	0.012	0.012
0.480		...	...	...	...	0.012	0.012	0.012	0.012
0.531		...	...	...	...	0.013	0.013	0.013	0.013
0.563		...	...	...	...	0.013	0.013	0.013	0.013
0.580		...	...	...	...	0.014	0.014	0.014	0.014
0.600		...	...	...	...	0.015	0.015	0.015	0.015
0.625		...	...	...	...	0.016	0.016	0.016	0.016
0.650		...	...	...	...	0.017	0.017	0.017	0.017

- (a) 1 in = 25.4 mm.
- (B) Birmingham Wire Gauge
- (c) Where the ellipsis (...) appears in this table, the tolerance is not addressed

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