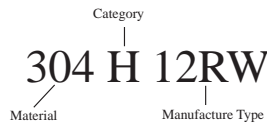


Hypodermic Tubing

Hypodermic Tubing is welded and drawn to tight OD and ID tolerances, and is sold and stocked in gauge sizes. Tolerances meet or exceed ASTM A908 standard. Hypodermic tubing is ideal for medical and industrial components applications that require strength, uniformity, and corrosion resistance. Not manufactured for pressure service. Wide selection, economical and quick delivery.

MicroGroup, now a part of TE Connectivity maintains both 304 stainless steel and 316 stainless steel tubing in stock, typically in full-hard temper condition. 304 stainless steel hypodermic tubing is stocked in all sizes and wall thicknesses. 316 stainless steel hypodermic tubing is stocked in all gauges but primarily stocked in Regular Wall (RW) and Thin Wall (TW).

How to Specify Hypodermic Tubing



Gauge Size	Nominal Inches			OD		ID		304 SS Item #	316 SS Item #
	OD	Wall	ID	Min	Max	Min	Max		
3 RW	.259	.020	.219	.2570	.2610	.2160	.2220	304H03RW	
3 TW	.259	.015	.229	.2570	.2610	.2270	.2310	304H03TW	
3 X	.259	.010	.239	.2570	.2610	.2370	.2410	304H03X	
4 RW	.238	.020	.198	.2360	.2400	.1950	.2010	304H04RW	316H04RW
4 TW	.238	.015	.208	.2360	.2400	.2060	.2100	304H04TW	
4 X	.238	.010	.218	.2360	.2400	.2160	.2200	304H04X	
5 RW	.219	.015	.189	.2170	.2210	.1860	.1920	304H05RW	
5 TW	.219	.010	.199	.217	.221	.197	.2010	304H05TW	
5 X	.219	.007	.205	.2170	.2210	.2030	.2070	304H05X	
6 RW	.2030	.015	.173	.2020	.2040	.1700	.1760	304H06RW	316H06RW
6 TW	.2030	.010	.183	.2020	.2040	.1810	.1850	304H06TW	316H06TW
6 X	.2030	.007	.189	.2020	.2040	.1870	.1910	304H06X	
6.5	.1880	.010	.168	.1870	.1890	.1650	.1710	304H06.5	
7 RW	.1800	.015	.150	.1790	.1810	.1470	.1530	304H07RW	316H07RW
7 TW	.1800	.010	.160	.1790	.1810	.1580	.1620	304H07TW	
7 X	.1800	.007	.166	.1790	.1810	.1640	.1680	304H07X	
7 XX	.1800	.004	.173	.1790	.1810	.1720	.1740	304H07XX	
7.5	.1720	.011	.150	.1710	.1730	.1470	.1530	304H07.5	
8 RW	.1650	.015	.135	.1640	.1660	.1320	.1380	304H08RW	316H08RW
8 TW	.1650	.010	.145	.1640	.1660	.1430	.1470	304H08TW	
8 XX	.1650	.007	.150	.1640	.1660	.1475	.1530	304H08XX	
8.5	.1560	.010	.136	.1550	.1570	.1330	.1390	304H08.5	
9 RW	.1480	.015	.118	.1470	.1490	.1150	.1210	304H09RW	316H09RW
9 TW	.1480	.010	.128	.1470	.1490	.1260	.1300	304H09TW	316H09TW
9 XX	.1480	.007	.135	.1470	.1490	.1330	.1370	304H09XX	
9 UX	.148	.005	.138	.1470	.1490	.1360	.1400	304H09UX	
9.5	.1410	.011	.119	.1400	.1420	.1170	.1210	304H09.5	
10 RW	.1340	.014	.106	.1330	.1350	.1040	.1080	304H10RW	316H10RW
10 TW	.1340	.010	.114	.1330	.1350	.1120	.1160	304H10TW	316H10TW
10 X	.1340	.008	.118	.1330	.1350	.1165	.1200	304H10X	

Hypodermic Tubing

Gauge Size	Nominal Inches			OD		ID		304 SS Item #	316 SS Item #
	OD	Wall	ID	Min	Max	Min	Max		
10 XX	.134	.006	.122	.1330	.1350	.1200	.1240	304H10XX	
10.5	.1260	.010	.106	.1250	.1270	.1040	.1080	304H10.5	
11 RW	.1200	.013	.094	.1190	.1210	.0920	.0960	304H11RW	316H11RW
11 TW	.1200	.010	.100	.1190	.1210	.0980	.1020	304H11TW	316H11TW
11 X	.1200	.007	.106	.1190	.1210	.1040	.1080	304H11X	
11 XX	.1200	.004	.112	.1190	.1210	.1100	.1140	304H11XX	
11.5	.1150	.010	.095	.1140	.1160	.0930	.0960	304H11.5	
12 H	.1090	.016	.077	.1080	.1100	.0750	.0790	304H12H	
12 RW	.1090	.012	.085	.1080	.1100	.0830	.0870	304H12RW	316H12RW
12 TW	.1090	.009	.091	.1080	.1100	.0890	.0930	304H12TW	316H12TW
12 X	.1090	.006	.097	.1080	.1100	.0950	.0990	304H12X	
12 XX	.1090	.005	.100	.1080	.1100	.0990	.1010	304H12XX	
12.5	.1000	.009	.082	.0990	.1010	.0800	.0840	304H12.5	
13 RW	.0950	.012	.071	.0940	.0960	.0690	.0730	304H13RW	316H13RW
13 TW	.0950	.009	.077	.0940	.0960	.7500	.0790	304H13TW	316H13TW
13 X	.0950	.005	.085	.0940	.0960	.0840	.0860	304H13X	
13 XX	.0950	.003	.090	.0940	.0960	.0890	.0910	304H13XX	
13.5	.0890	.009	.071	.0880	.0900	.0690	.0730	304H13.5	
14 XH	.0830	.022	.039	.0820	.0840	.0370	.0410	304H14XH	
14 H	.0830	.017	.049	.0820	.0840	.0470	.0510	304H14H	
14 RW	.0830	.010	.063	.0820	.0840	.0610	.0650	304H14RW	316H14RW
14 M	.0830	.008	.068	.0820	.0840	.0660	.0690	304H14M	
14 TW	.0830	.006	.072	.0820	.0840	.0700	.0730	304H14TW	316H14TW
14 XX	.0830	.003	.077	.0820	.0840	.0760	.0780	304H14XX	
14.5	.0780	.008	.063	.0770	.0790	.0620	.0640	304H14.5	
15 RW	.0720	.009	.054	.0715	.0725	.0525	.0555	304H15RW	316H15RW
15 TW	.0720	.006	.060	.0715	.0725	.0585	.0615	304H15TW	316H15TW
15 X	.0720	.005	.063	.0715	.0725	.0620	.0640	304H15X	
15 S	.0720	.009	.054	.0715	.0725	.0548	.0532		316H15S
15 H	.0720	.011	.050	.0715	.0725	.0480	.0520	304H15H	
15.5	.0680	.007	.054	.0675	.0685	.0525	.0555	304H15.5	
16 RW	.0650	.009	.047	.0645	.0655	.0455	.0485	304H16RW	316H16RW
16 TW	.0650	.006	.053	.0645	.0655	.0525	.0545	304H16TW	316H16TW
16 X	.0650	.004	.057	.0645	.0655	.0550	.0580	304H16X	
16 XX	.0650	.003	.060	.0645	.0655	.5850	.0610	304H16XX	
16 H	.0650	.016	.033	.0645	.0655	.0310	.0350	304H16H	316H16H
16.5	.0620	.005	.052	.0615	.0625	.0505	.0535	304H16.5	316H16.5
17 RW	.0590	.009	.041	.0585	.0595	.0395	.0425	304H17RW	316H17RW
17TW	.0590	.007	.046	.0585	.0595	.0445	.0475	304H17TW	316H17TW
17 X	.0590	.004	.052	.0585	.0595	.0510	.0530	304H17X	
17 XX	.0590	.002	.054	.0585	.0595	.0535	.0550	304H17XX	
17 S	.0580	.008	.042	.0575	.0585	.0405	.0435	304H17S	316H17S
17 SX	.0580	.004	.050	.0575	.0585	.0490	.0510	304H17SX	
17 H	.0590	.010	.039	.0585	.0595	.0370	.0410	304H17H	
17.5	.0560	.005	.046	.0555	.0565	.0445	.0475	304H17.5	
18 RW	.0500	.009	.033	.0495	.0505	.0315	.0345	304H18RW	316H18RW

Hypodermic Tubing

Gauge Size	Nominal Inches			OD		ID		304 SS Item #	316 SS Item #
	OD	Wall	ID	Min	Max	Min	Max		
18 S	.0500	.006	.038	.0495	.0505	.0365	.0395	304H18S	316H18S
18 TW	.0500	.004	.042	.0495	.0505	.0410	.0430	304H18TW	316H18TW
18 XX	.0500	.003	.045	.0495	.0505	.0440	.0460	304H18XX	316H18XX
18 H	.0500	.010	.030	.0495	.0505	.0280	.0320	304H18H	
18.5	.0460	.006	.034	.0455	.0465	.0325	.0355	304H18.5	
19 RW	.0425	.008	.028	.0420	.0430	.0260	.0290	304H19RW	316H19RW
19TW	.0425	.005	.033	.0420	.0430	.0315	.0335	304H19TW	316H19TW
19 X	.0425	.004	.035	.0420	.0430	.0340	.0360	304H19X	
19 XX	.0425	.003	.038	.0420	.0430	.0365	.0385	304H19XX	
19 H	.0425	.010	.023	.0420	.0430	.0210	.0240	304H19H	
19.5	.0390	.006	.027	.0385	.0395	.0255	.0285	304H19.5	
20 RW	.0355	.006	.024	.0355	.0360	.0230	.0245	304H20RW	316H20RW
20TW	.0355	.005	.026	.0355	.0360	.0250	.0265	304H20TW	316H20TW
20 X	.0355	.004	.028	.0355	.0360	.0270	.0285	304H20X	
20 XX	.0355	.003	.031	.0355	.0360	.0295	.0315	304H20XX	316H20XX
20.5	.0340	.004	.027	.0340	.0345	.0255	.0275	304H20.5	
21 H	.0320	.008	.017	.0320	.0325	.0150	.0180	304H21H	
21 RW	.0320	.006	.020	.0320	.0325	.0195	.0210	304H21RW	316H21RW
21TW	.0320	.005	.023	.0320	.0325	.0220	.0240	304H21TW	316H21TW
21 XX	.0320	.002	.029	.0320	.0325	.0280	.0295	304H21XX	
21.5	.0300	.003	.024	.0300	.0305	.0230	.0245	304H21.5	
22 RW	.0280	.006	.016	.0280	.0285	.0155	.0170	304H22RW	316H22RW
22TW	.0280	.004	.020	.0280	.0285	.0190	.0205	304H22TW	316H22TW
22 XX	.0280	.002	.024	.0280	.0285	.0230	.0240	304H22XX	
22 X	.0280	.003	.022	.0280	.0285	.0210	.0225	304H22X	
22 XH	.0280	.011	.007	.0280	.0285	.0050	.0090	304H22XH	
22.5	.0260	.003	.020	.0260	.0265	.0195	.0210	304H22.5	
23 RW	.0250	.006	.013	.0250	.0255	.0125	.0140	304H23RW	316H23RW
23TW	.0250	.004	.017	.0250	.0255	.0165	.0180	304H23TW	316H23TW
23 XX	.0250	.002	.020	.0250	.0255	.0195	.0210	304H23XX	
23.5	.0230	.003	.017	.0230	.0235	.0165	.0180	304H23.5	
24 RW	.0220	.005	.012	.0220	.0225	.0115	.0130	304H24RW	316H24RW
24TW	.0220	.004	.014	.0220	.0225	.0135	.0150	304H24TW	316H24TW
24 XX	.0220	.003	.016	.0220	.0225	.0155	.0170	304H24XX	
24.5	.0210	.002	.016	.0210	.0215	.0155	.0170	304H24.5	
25 RW	.0200	.005	.010	.0200	.0205	.0095	.0110	304H25RW	316H25RW
25TW	.0200	.004	.012	.0200	.0205	.0115	.0130	304H25TW	316H25TW
25 XX	.0200	.002	.016	.0200	.0205	.0155	.0170	304H25XX	
25.5	.0190	.002	.014	.0190	.0195	.0135	.0150	304H25.5	
26 RW	.0180	.004	.010	.0180	.0185	.0095	.0110	304H26RW	316H26RW
26 TW	.0183	.003	.0123	.0180	.0185	.0115	.0130	304H26TW	
26 X	.0183	.002	.0138	.0180	.0185	.0130	.0145	304H26X	
27 RW	.0160	.004	.008	.0160	.0165	.0075	.0090	304H27RW	316H27RW
27 TW	.0160	.003	.0103	.0160	.0165	.0095	.0110	304H27TW	
27 X	.0160	.002	.0120	.0160	.0165	.0115	.0125	304H27X	
28 RW	.0140	.003	.007	.0140	.0145	.0065	.0080	304H28RW	316H28RW

Hypodermic Tubing

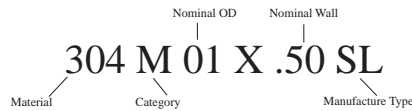
Gauge Size	Nominal Inches			OD		ID		304 SS Item #	316 SS Item #
	OD	Wall	ID	Min	Max	Min	Max		
28 TW	.0140	.002	.009	.0140	.0145	.0085	.0100	304H28TW	
29 RW	.0130	.003	.007	.0130	.0135	.0065	.0080	304H29RW	316H29RW
30 XH	.0120	.004	.003	.0115	.0125	.0020	.0040		316H30XH
30 RW	.0120	.003	.006	.0120	.0125	.0055	.0070	304H30RW	316H30RW
30 XX	.0120	.002	.008	.0120	.0125	.0075	.0090	304H30XX	
31 RW	.0100	.002	.005	.0100	.0105	.0045	.0060	304H31RW	316H31RW
32 RW	.0090	.002	.004	.0090	.0095	.0035	.0050	304H32RW	
33 RW	.0080	.002	.004	.0080	.0085	.0035	.0050	304H33RW	
33 X	.0080	.001	.006	.0080	.0085	.0060	.0070	304H33X	
34 RW	.0060	.002	.002	.0060	.0065	.0015	.0030	304H34RW	



Metric Tubing

Metric tubing is typically stocked in seamless 304 Stainless Steel and 316 Stainless Steel and is usually in the annealed temper condition manufactured to OD and wall dimensions. Metric tubing is generally used with standard metric compression fittings and other commercial applications that require corrosion resistance and strength.

How to Specify Metric Tubing



Tolerance Chart

OD (mm)	OD Tolerance (mm)	Wall Tolerance
< 3mm	+/- 0.050	+/- 15%
3mm to < 6mm	+/- 0.080	+/- 15%
6mm to < 14mm	+/- 0.130	+/- 15%
14mm to < 24mm	+/- 0.130	+/- 10%

Metric Tubing Offering (reference inch is rounded to 3 decimal places)

OD Nom. (mm)	Wall Nom. (mm)	ID Nom. (mm)	Type 304 Item #	Type 316 Item #
1 (.039")	0.20 (.008")	0.60 (.024")	304M01X.20SL	Special Order
2 (.079")	0.50 (.020")	1.00 (.039")	304M02X.50SL	316M02X.50SL
3 (.118")	0.50 (.020")	2.00 (.079")	304M03X.50SL	316M03X.50SL
4 (.157")	0.50 (.020")	3.00 (.118")	304M04X.50SL	316M04X.50SL
5 (.197")	0.50 (.020")	4.00 (.157")	304M05X.50SL	316M05X.50SL
6 (.236")	0.50 (.020")	5.00 (.197")	304M06X.50SL	316M06X.50SL
6 (.236")	1.00 (.039")	4.00 (.157")	304M06X1.00SL	316M06X1.00SL
6 (.236")	1.50 (.059")	3.00 (.118")	304M06X1.50SL	316M06X1.50SL
7 (.276")	0.50 (.020")	6.00 (.236")	304M07X.50SL	316M07X.50SL
7 (.276")	1.00 (.039")	5.00 (.197")	304M07X1.00SL	316M07X1.00SL
8 (.315")	0.50 (.020")	7.00 (.276")	304M08X.50SL	316M08X.50SL
8 (.315")	1.00 (.039")	6.00 (.236")	304M08X1.00SL	316M08X1.00SL
8 (.315")	1.50 (.059")	5.00 (.197")	304M08X1.50SL	Special Order

Metric Tubing

OD (mm)	OD Tolerance (mm)	Wall Tolerance
< 3mm	+/- 0.050	+/- 15%
3mm to < 6mm	+/- 0.080	+/- 15%
6mm to < 14mm	+/- 0.130	+/- 15%
14mm to < 24mm	+/- 0.130	+/- 10%

OD Nom. (mm)	Wall Nom. (mm)	ID Nom. (mm)	Type 304 Item #	Type 316 Item #
9 (.354")	0.50 (.020")	8.00 (.315")	304M09X.50SL	316M09X.50SL
9 (.354")	1.00 (.039")	7.00 (.276")	304M09X1.00SL	316M09X1.00SL
9 (.354")	1.50 (.059")	6.00 (.236")	304M09X1.50SL	Special Order
10 (.394")	0.50 (.020")	9.00 (.354")	304M10X.50SL	316M10X.50SL
10 (.394")	1.00 (.039")	8.00 (.315")	304M10X1.00SL	316M10X1.00SL
10 (.394")	1.50 (.059")	7.00 (.276")	304M10X1.50SL	316M10X1.50SL
10 (.394")	2.00 (.079")	6.00 (.236")	304M10X2.00SL	Special Order
11 (.433")	0.50 (.020")	10.00 (.394")	304M11X.50SL	Special Order
11 (.433")	1.00 (.039")	9.00 (.354")	304M11X1.00SL	316M11X1.00SL
12 (.472")	0.50 (.020")	11.00 (.433")	304M12X.50SL	316M12X.50SL
12 (.472")	1.00 (.039")	10.00 (.394")	304M12X1.00SL	316M12X1.00SL
12 (.472")	1.50 (.059")	9.00 (.354")	304M12X1.50SL	316M12X1.50SL
12 (.472")	2.00 (.079")	8.00 (.315")	304M12X2.00SL	Special Order
14 (.551")	1.50 (.059")	11.00 (.433")	304M14X1.50SL	316M14X1.50SL
16 (.630")	1.50 (.059")	13.00 (.512")	304M16X1.50SL	316M16X1.50SL
20 (.787")	1.00 (.039")	18.00 (.709")	304M20X1.00SL	Special Order
20 (.787")	1.50 (.059")	17.00 (.669")	304M20X1.50SL	316M20X1.50SL
22 (.866")	1.50 (.059")	19.00 (.748")	304M22X1.50SL	316M22X1.50SL
24 (.945")	1.50 (.059")	21.00 (.827")	Special Order	Special Order