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Ground Bar Tolerances

Our steel bar can be centreless ground to your exact sizes and tolerances.

Precision ground steel bar is suited for applications which require a tighter tolerance than standard commercial bright drawn, bright turned or bright peeled bar. Precision ground steel bars can be supplied to a defined tight tolerance on diameter, providing good roundness, straightness and a fine surface finish. The roundness and straightness of a ground steel bar ensures its suitability for machining in environments which require minimum vibration as the bars rotate at high speeds. Precision ground steel bars are well suited for a wide range of applications.

Below we list the standard ISO tolerances for precision ground, bright drawn, smooth turned and polished round steel bar (diameters).

Metric Diameters

Dia - mm	ISO h6	ISO h7	ISO h8	ISO h9	ISO h10	ISO h11
1 < 3	0.006	0.010	0.014	0.025	0.040	0.060
3 < 6	0.008	0.012	0.018	0.030	0.048	0.075
6 < 10	0.009	0.015	0.022	0.036	0.058	0.090
10 < 18	0.011	0.018	0.027	0.043	0.070	0.110
18 < 30	0.013	0.021	0.033	0.052	0.084	0.130
30 < 50	0.016	0.025	0.039	0.062	0.100	0.160
50 < 80	0.019	0.030	0.046	0.074	0.120	0.190
80 < 120	0.022	0.035	0.054	0.087	0.140	0.220
120 < 180	-	-	0.063	0.100	0.160	0.250
180 < 250	-	-	0.072	0.115	0.185	0.290
250 < 275	-	-	0.081	0.130	0.210	0.320

Imperial Diameters

Dia - inches	ISO h6	ISO h7	ISO h8	ISO h9	ISO h10	ISO h11
0.039 < 0.118	0.00025	0.0004	0.0006	0.0010	0.0016	0.0024
0.118 <	0.0003	0.0005	0.0007	0.0012	0.0019	0.0030

0.236						
0.236 < 0.393	0.0004	0.0006	0.0009	0.0014	0.0023	0.0035
0.393 < 0.707	0.0004	0.0007	0.0010	0.0016	0.0028	0.0043
0.707 < 1.181	0.0005	0.0008	0.0012	0.0020	0.0035	0.0051
1.181 < 1.969	0.0006	0.0010	0.0016	0.0025	0.0040	0.0063
1.969 < 3.150	0.0007	0.0012	0.0018	0.0030	0.0046	0.0075
3.150 < 4.724	0.0009	0.0014	0.0022	0.0035	0.0055	0.0087
4.724 < 7.087	-	-	0.0025	0.0039	0.0063	0.0098
7.087 < 9.843	-	-	0.0028	0.0045	0.0073	0.0114