

**Round: Ground, Cut to Length, with Chamfer (inch)**

Ø Diameter	h6 Ø Tolerance	Concentricity Tolerances (Inch)						Chamfer
		Length: 1.18 - 2.56	L: 2.57 - 3.94	L: 3.95 - 5.87	L: 5.88 - 7.83	L: 7.84 - 9.80	L: 9.81 - 11.81	
0 - 0.118	+0/-0.00024	0.0005	0.0006	0.0015	0.0025	0.0039	0.0049	0.015 (+/- 0.006)
0.119 - 0.236	+0/-0.00031	0.0005	0.0005	0.0006	0.0015	0.0030	0.0039	0.020 (+/- 0.008)
0.237 - 0.393	+0/-0.00035	0.0004	0.0005	0.0005	0.0006	0.0025	0.0035	0.024 (+/- 0.008)
0.394 - 0.709	+0/-0.00043	0.0003	0.0004	0.0005	0.0006	0.0008	0.0030	0.039 (+/- 0.008)
0.710 - 1.180	+0/-0.00051	0.0003	0.0003	0.0004	0.0005	0.0006	0.0008	0.047 (+/- 0.015)
1.190 - 1.970	+0/-0.00063	0.0003	0.0003	0.0003	0.0004	0.0005	0.0006	0.062 (+/- 0.015)

Length Tolerances: + 0.040" / - 0    + 0.040" / - 0    + 0.060" / - 0    + 0.060" / - 0    + 0.060" / - 0    + 0.060" / - 0

Roundness: 0.0001" Max.

v: Finish (m): 3.9 µin Max Ra (Polished)

**Round: Ground, Cut to Length, with Chamfer (mm)**

Ø Diameter	h6 Ø Tolerance	Concentricity Tolerances (mm)						Chamfer
		Length: 30 - 65	Length: 66 - 100	Length: 101 - 149	Length: 150 - 199	Length: 200 - 249	Length: 250 - 300	
0 - 3.0	+0/-0.006	0.010	0.013	0.0300	0.0500	0.080	0.100	0.40 (+/- 0.15)
3.1 - 6.0	+0/-0.008	0.010	0.010	0.0130	0.0300	0.060	0.080	0.50 (+/- 0.20)
6.1 - 10.0	+0/-0.009	0.008	0.010	0.010	0.0130	0.050	0.070	0.60 (+/- 0.20)
10.1 - 18.0	+0/-0.011	0.005	0.008	0.010	0.0130	0.015	0.060	1.00 (+/- 0.20)
18.01 - 30.0	+0/-0.013	0.005	0.005	0.0080	0.010	0.013	0.015	1.20 (+/- 0.40)
30.1 - 50.0	+0/-0.016	0.005	0.005	0.0050	0.0080	0.010	0.013	1.60 (+/- 0.40)

Length Tolerances: + 1mm / - 0    + 1mm / - 0    + 1.6mm / - 0    + 1.6mm / - 0    + 1.6mm / - 0    + 1.6mm / - 0

Roundness: 0.0025mm Max.

v: Finish (m): 0.1 µm Max Ra (Polished)

**Round: Ground, Long Lengths [ L ≥ 12" ] (Inch)**

Ø Diameter	h6 Ø Tolerance	Roundness	Straightness
0 - 0.118	+0/-0.00024	0.0001 Max.	0.008
0.119 - 0.236	+0/-0.00031	0.00016 Max.	0.007
0.237 - 0.393	+0/-0.00035	0.00016 Max.	0.006
0.394 - 0.709	+0/-0.00043	0.00016 Max.	0.005
0.710 - 1.180	+0/-0.00051	0.00016 Max.	0.004
1.190 - 1.970	+0/-0.00063	0.00016 Max.	0.003

Lengths: + 0.125" / - 0  
v: Finish (m): 3.9 µin Max Ra (Polished)

**Round: Ground, Long Lengths [ L ≥ 304.8mm ] (mm)**

Ø Diameter	h6 Ø Tolerance	Roundness	Straightness
0 - 3.0	+0/-0.006	0.0025 Max.	0.19
3.1 - 6.0	+0/-0.008	0.0041 Max.	0.17
6.1 - 10.0	+0/-0.009	0.0041 Max.	0.15
10.1 - 18.0	+0/-0.011	0.0041 Max.	0.12
18.01 - 30.0	+0/-0.013	0.0041 Max.	0.10
30.1 - 50.0	+0/-0.016	0.0041 Max.	0.08

Lengths: + 3.1mm / - 0  
v: Finish (m): 0.1 µm Max Ra (Polished)

**Round: As Sintered (Unground) (mm)**

Ø Diameter	Ø Tolerance	Roundness	Straightness
0.80 - 4.50	+0.20/-0	0.06	0.40
4.51 - 6.50	+0.25/-0	0.07	0.40
6.51 - 14.80	+0.30/-0	0.08	0.30
14.81 - 19.50	+0.45/-0	0.09	0.30
19.51 - 23.50	+0.55/-0	0.10	0.30
23.51 - 32.30	+0.65/-0	0.11	0.30
32.31 - 46.20	+0.70/-0	0.12	0.30

Lengths: + 3.5mm / - 0  
v: Finish (m): as Sintered

**Square, Rectangle: As Sintered (Unground) (mm)**

Height/Width	Tolerance
1.5 - 2.0	+0.25/+0.50
2.5	+0.25/+0.52
3.0 - 4.0	+0.25/+0.55
5.0 - 18.0	+0.25/+0.60
20.0 - 24.0	+0.30/+0.65
25.0 - 35.0	+0.30/+0.80
35.0 +	+0.35/+0.80

Lengths:	Tolerance
< 100.0	+0.25/+1.50
100.0 - 165.0	+1.00/+2.50
165.0 - 335.0	+1.00/+6.00

**Chip Specifications (Round, Ground)**

Ø Diameter (mm)	Radial Chip - Max	Axial Chip - Max
3.0 ≤ 6.35	0.380 mm	0.250 mm
6.36 ≤ 25.4	0.500 mm	0.380 mm