

## 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 <<br>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 <<br>0.393 | 0.0004 | 0.0006 | 0.0009 | 0.0014 | 0.0023 | 0.0035 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| 0.393 <<br>0.707 | 0.0004 | 0.0007 | 0.0010 | 0.0016 | 0.0028 | 0.0043 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| 0.707 <<br>1.181 | 0.0005 | 0.0008 | 0.0012 | 0.0020 | 0.0035 | 0.0051 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| 1.181 <<br>1.969 | 0.0006 | 0.0010 | 0.0016 | 0.0025 | 0.0040 | 0.0063 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| 1.969 <<br>3.150 | 0.0007 | 0.0012 | 0.0018 | 0.0030 | 0.0046 | 0.0075 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|
| 3.150 <<br>4.724 | 0.0009 | 0.0014 | 0.0022 | 0.0035 | 0.0055 | 0.0087 |
|------------------|--------|--------|--------|--------|--------|--------|

|                  |   |   |        |        |        |        |
|------------------|---|---|--------|--------|--------|--------|
| 4.724 <<br>7.087 | - | - | 0.0025 | 0.0039 | 0.0063 | 0.0098 |
|------------------|---|---|--------|--------|--------|--------|

|                  |   |   |        |        |        |        |
|------------------|---|---|--------|--------|--------|--------|
| 7.087 <<br>9.843 | - | - | 0.0028 | 0.0045 | 0.0073 | 0.0114 |
|------------------|---|---|--------|--------|--------|--------|