Bore Material

Steel and cast iron are typically used for bore housings as they provide a good surface for accepting both metal and rubber O.D. seals. For soft metal, such as Aluminum, a rubber O.D. is recommended. There is no recommended Rockwell hardness for the bore. However, the bore should be of sufficient hardness to withstand the seal's O.D.

Bore Finish

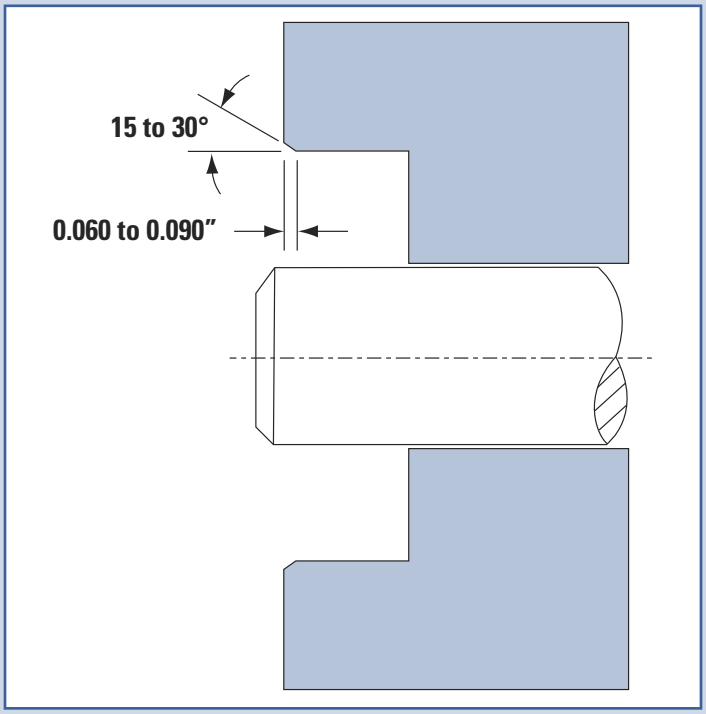
The bore finish should be 0.8 to 1.6 µm Ra (32 to 64 µin Ra) for metal O.D. seals and should be 2.5 to 5.0 µm Ra (100 to 200 µin Ra) for rubber O.D. seals. If surface roughness exceeds this then paint sealant can be added to the O.D. of the metal seal.

Bore Tolerances in Metric

Bore Diameter	Bore Tolerance
up to 6	+ 0.018 / - 0.000
6 to 10	+ 0.022 / - 0.000
10 to 18	+ 0.027 / - 0.000
18 to 30	+ 0.033 / - 0.000
30 to 50	+ 0.039 / - 0.000
50 to 80	+ 0.046 / - 0.000
80 to 120	+ 0.054 / - 0.000
120 to 180	+ 0.063 / - 0.000
180 to 250	+ 0.072 / - 0.000
250 to 315	+ 0.081 / - 0.000
315 to 400	+ 0.089 / - 0.000
400 to 500	+ 0.097 / - 0.000

Bore Lead-in Chamfer

The lead corner, or entering edge of the bore should be chamfered and free of burrs (See figure below).



Bore Tolerance in Inches

Bore Diameter	Bore Tolerance
up to 3.000	+/- 0.001
3.001 to 6.000	+/- 0.0015
6.001 to 10.000	+/- 0.002
10.001 to 20.000	+ 0.002 - 0.004
20.001 to 40.000	+0.002 - 0.006
40.001 to 60.000	+0.002 - 0.010