

Round bar machining techniques

The SuperFlex range includes polyurethane solid rod. This material can be machined with ease, and is available in 70, 80, 90 & 95 Shore "A" Hardness. (see guide below)

SuperFlex solid rod is available in production colours of dark blue or red.

These helpful hints will ensure safe, accurate machining of polyurethane rod.

- Tool: Parting tool must be in the form of a razor sharp knife blade. The machining tool should have a 30 degree rake on the leading or top edge. Use of light oil will assist deep parting off.
- Surface: 500 ft/min e.g. - 2000 RPM on 1" bar.
- Length Ratio: Simplest to machine with 2:1 diameter to length ratio, e.g., 2" solid rod projects 4" out of chuck. (The poly rod will move away from the tool if any lower).
- Travelling Steady: Don't use travelling steady when machining long tubular lengths. The friction created where the steady comes into contact with the rod, will melt the polyurethane.
- Mandrel: When machining outside diameter on long tubular parts, machine on a "Mandrel".
- Drilling: When drilling, force drill into rod to create required internal diameter, then allow drill to dwell for a smooth finish. The polyurethane material will actually melt to size.
- Special Note: When working with 70 Duro, for best results and for ease of machining, place rod to be worked on, into the freezer section of a refrigerator the night before.

SAFETY PRECAUTIONS

- When machining any polyurethane component DO NOT INHALE any vapour or smoke which could be created.
- Always wear protective clothing and glasses.

Guide to Hardness Selection

It has become necessary to dispel many myths & misconceptions on application of hardness caused by imitation.

SuperFlex grades are all pre determined in hardness suitable for road to fast road use. As a customer, you do not have to choose the hardness, unless an option on our listings.

On some cars all four production hardness are applied in various positions around the car, depending on the load in that location – as tested and pre determined by us.

Colours of SuperFlex bushes do not identify hardness, with the exception of 95 shore which is only produced in red.

To simply blanket a car with one hardness and call it: comfort, dynamic, performance, race, road or touring displays compromise or limited production capability and doesn't work.

See selection chart below - based on nearly 30 years PU manufacturing experience:

Guide to Hardness Selection	
70 Shore	Typically subframe mountings where low NVH is a priority and situations where compliance is desirable
80 Shore	Typically wishbone, radius rod, non coil over shock eye bushes
90 Shore	Typically leaf spring eyes or more heavily loaded wishbones & radius arms, trunnion bushes where replacing rubber
95 Shore	Typically intensely loaded coil over shock bushes, trunnion bushes where replacing nylon – red only

For certain motor sport applications we can make bushes typically in firmer grades to special order. The lead time for this service is 4 weeks and is subject to a minimum order of 100 pu pieces of any one part number.