

TECHNICAL INFORMATION

SETTING THE SPINDLE SPEED

To calculate the correct speed the following metric formula can be used

$$\text{RPM} = \frac{1000 \times \text{Surface speed in Metres per Minute}}{3.14 \times \text{Diameter in millimetres}}$$

Approximate surface speeds for carbide tools

Metres per minute

Material	Roughing	Finishing
Mild Steel	50	80
Cast Iron	40	60
Aluminium	80	100
Stainless Steel	40	50

Example 1.

20mm Mild Steel bar to be rough machined

$$\text{RPM} = \frac{1000 \times 50}{3.14 \times 20\text{mm}} = \frac{50000}{62.8} = 796\text{rpm}$$

Example 2.

20mm Mild Steel bar to be finished machined

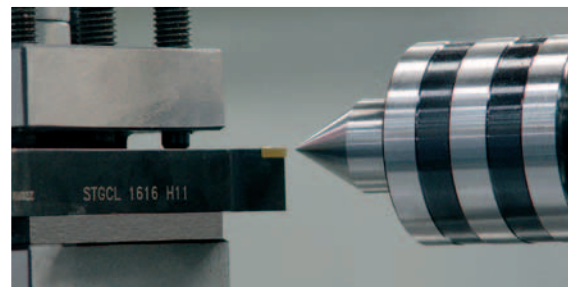
$$\text{RPM} = \frac{1000 \times 80}{3.14 \times 20\text{mm}} = \frac{80000}{62.8} = 1273\text{rpm}$$

- Set the spindle speed to the closest speed to the RPM calculated
- If in doubt then set a speed slower than the calculated speed

SETTING THE TOOL ON CENTRE

For the tool to cut correctly it needs to be set on centre. This can be best achieved by placing a centre in the tailstock and packing the tool until the tool is on centre.

Correct centre height



Incorrect centre height

