

# 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

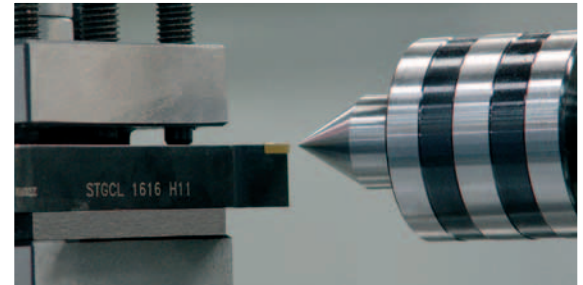
$$\text{RPM} = \frac{1000 \times 80}{3.14 \times 20\text{mm}} = \frac{80000}{62.8} = 1273\text{rpm}$$

- 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

