

Machining Speeds and Feeds

Material Speed Factor - SFPM

SURFACE FEET / MIN – Hi-Speed Steel

(Carbide = _____ X Hi-Speed Steel)

A) Stainless Steel = _____ SFPM

_____ min. cut

B) Tool Steel = _____ SFPM

includes _____

C) Cast Iron = _____ SFPM

no _____ & _____

D) Mild Steel = _____ SFPM

E) Copper = _____ SFPM

F) Brass and Bronze = _____ SFPM

G) Aluminum = _____ SFPM

H) Wood = _____ SFPM

I) Plastic = _____ SFPM

(1ft.= _____ mm, 1 inch= _____ mm)

SPEED – Lathe - Mill (*metric* = _____/_____)

1) RPM = _____

Metric (rpm = _____)

2) Threading Dies rpm = _____ (Calculated rpm)

3) Knurling rpm = _____ (Calculated rpm)

4) Reamer rpm = _____ (Calculated rpm)

5) Tap rpm = _____ (Calculated rpm)

6) Counter Bore rpm = _____ (Calculated rpm)

7) Counter Sink rpm = _____ (Calculated rpm)

8) Center Drill rpm = _____ (Calculated rpm)

9) Parting Tool = _____ (Calculated rpm)

10) Drill rpm = _____ (Calculated rpm)

11) Band Saw = _____

12) Grinding wheel surface speed = _____

Tap drill size

1) Fractional bolt & metric tap drill size = _____

2) Machine screw Maj. Dia. = _____

(screw # X _____) + _____

3) Basic Pitch Dia. = _____

_____ - (_____ X _____)

FEED - _____

Lathe - _____

1) Roughing feed = _____ depth of cut

Depth of cut - _____

2) Finish feed = _____ depth of cut

Depth of cut - _____

Last two passes approx. _____

3) Knurling feed = _____

4) Parting feed = _____

Mill - _____

5) Chip load/flute = _____

(never < _____ or > _____)

6) Cutter feed = _____

7) Maximum depth of Milling cut = _____

(2 flute= _____, 4 flute= _____ max)

Drill - _____

8) Drill feed = _____

Reamer - _____

9) Reamer feed = _____

(chip load = _____)

10) Reamer Pilot hole

_____% of finish size – never < _____" under

Grinder

11) Wheel cut = _____ or less typical (finish)

Feed = _____ typical

(Too fast feed causes _____)

12) Table speed

Too slow = _____

Too fast = _____

13) Dressing – _____ typical pass

Male thread - ____% undersize

_____” grind stock when heat treating

Sq. key = ____% of shaft diameter