Feeds and Speeds

**Terminology**

SFM = Surface Feet per Minute

RPM = Revolutions per Minute

IPM = Inch per Minute

IPR = Inch per Revolution (Chip Load)

IPT = Inch per Tooth (Chip Load)

MRR = Material Removal Rate

RDOC = Radial Depth of Cut

ADOC = Axial Depth of Cut

**Feeds and Speeds Formulas**

SFM = (Cutter Diameter x RPM)/3.82

RPM = (3.82 x SFM) / Cutter Diameter

Chip Load (IPR) = IPT x Number of Flutes

IPM = RPM x IPT x Number of Flutes

IPM = RPM x IPR

IPM = (Recommended Feed IPM / Recommended RPM) x Available RPM

**Examples**

Cutter = 0.5” 5 flute

Chip Load (IPT) = .00217

RDOC = 0.25 x Diameter

ADOC = 1 x Diameter

SFM = 600

IPR = IPT x Number of Flutes = .00217 x 5 = 0.01085

RPM = (3.82 x 600) / 0.5 = 4,584

IPM = 4,584 x 0.01085 = 49.74

Approximate Feedrate = 50in/min

Graphical user interface, application

Description automatically generated