Calculations Drill B200

n = Rotation Speed in RPM
vc = cutting speed in m/min
d = Diameter in mm
z = number of teeth
fz = tooth feed in mm/tooth
vf = feed speed (mm/min)

The speed of the cutter is calculated using the following formula:

n [RPM] = (vc [m/min] *1000) / (3.14 * Ød1 [mm])

Example: Ø 5mm / Cast-Aluminium
vc = 100 m/min (selected from table)
d = Ø 5 mm

6370 U/min = (100 *1000) / (3.14 * 5)

The feed speed can be calculated by following formula:

vf = n * f

Example for wrought alloy 5mm drill
n = 6370 U/min from formula above
f= 0,07 from table

446 mm/min = 6370 * 0,07

Approximate values for speed an feedrate

	Cutting speed m/min.	Diameter milling cutter							
		Ø 1mm	Ø 2mm	Ø 3mm	Ø 4mm	Ø 5mm	Ø 6mm	Ø 8mm	Coolant
		Tooth feed in mm / tooth / rotation							
Cast-Aluminium > 6% Si	50-70	0,010	0,020	0,030	0,040	0,060	0,080	0,090	Emulsion
Aluminium Wrought alloy	100-140	0,030	0,040	0,050	0,060	0,070	0,080	0,090	Emulsion
Softplastic	600	0,050	0,060	0,080	0,100	0,120	0,140	0,160	DRY/ Minimal coolant
Hardplastic	550	0,040	0,050	0,065	0,080	0,090	0,120	0,140	DRY/ Minimal coolant
Brass, Copper, Bronze	60-100	0,030	0,040	0,050	0,060	0,070	0,080	0,090	DRY/ Minimal coolant
Steel	90-110	0,010	0,010	0,012	0,025	0,030	0,050	0,060	Emulsion

The values given are a rough guide and may differ from the table depending on the machine and peripherals.