

## CNC3018 Feed and Plunge Rates

Material	Tool Type	Tool Dia. (mm)	Speed (0–1000)	Feed Rate (mm/min)	Plunge Rate (mm/min)	Depth of Cut (mm)	Notes
Softwood/MDF	Flat Endmill	0.5	800	100	50	0.5	Single flute; avoid burning.
Softwood/MDF	Flat Endmill	1.0	1000	200	80	0.7	
Softwood/MDF	Flat Endmill	1.5	1000	300	100	1.0	
Softwood/MDF	Flat Endmill	2.0	1000	400	120	1.0	
Softwood/MDF	Flat Endmill	2.5	1000	500	150	1.2	
Softwood/MDF	Flat Endmill	3.0	1000	600	200	1.5	
Softwood/MDF	Flat Endmill	3.5	1000	700	250	1.5	
Softwood/MDF	Flat Endmill	4.0	1000	800	300	1.5	
Softwood/MDF	V-shaped Mill	0.1 Tip	800	50	30	0.2	Shallow engraving cuts.
Softwood/MDF	V-shaped Mill	0.2 Tip	800	80	40	0.3	
Hardwood	Flat Endmill	0.5	700	80	40	0.3	Reduce feed for dense hard-woods.
Hardwood	Flat Endmill	1.0	800	150	60	0.5	
Hardwood	Flat Endmill	1.5	800	250	80	0.7	
Hardwood	Flat Endmill	2.0	800	300	100	0.8	
Hardwood	Flat Endmill	2.5	800	350	120	1.0	
Hardwood	Flat Endmill	3.0	800	400	150	1.0	
Hardwood	Flat Endmill	3.5	800	450	180	1.2	
Hardwood	Flat Endmill	4.0	800	500	200	1.2	
Hardwood	V-shaped Mill	0.1 Tip	700	50	30	0.2	Fine engraving cuts.
Hardwood	V-shaped Mill	0.2 Tip	700	80	40	0.3	
Acrylic/Plastic	Flat Endmill	0.5	600	80	40	0.3	Sharp single flute; avoid melt-ing.

Acrylic/Plastic	Flat Endmill	1.0	800	150	60	0.5	
Acrylic/Plastic	Flat Endmill	1.5	800	250	80	0.7	
Acrylic/Plastic	Flat Endmill	2.0	800	300	100	0.8	
Acrylic/Plastic	Flat Endmill	2.5	800	350	120	1.0	
Acrylic/Plastic	Flat Endmill	3.0	800	400	150	1.0	
Acrylic/Plastic	Flat Endmill	3.5	800	450	180	1.2	
Acrylic/Plastic	Flat Endmill	4.0	800	500	200	1.2	
Acrylic/Plastic	V-shaped Mill	0.1 Tip	600	60	30	0.2	
Aluminum	Flat Endmill	0.5	600	60	30	0.2	Use cutting fluid; slow plunge.
Aluminum	Flat Endmill	1.0	600	100	40	0.3	
Aluminum	Flat Endmill	1.5	600	150	50	0.3	
Aluminum	Flat Endmill	2.0	600	180	60	0.4	
Aluminum	Flat Endmill	2.5	600	200	80	0.5	
Aluminum	Flat Endmill	3.0	600	250	100	0.5	
Aluminum	Flat Endmill	3.5	600	280	120	0.6	
Aluminum	Flat Endmill	4.0	600	300	150	0.6	
Aluminum	V-shaped Mill	0.2 Tip	500	50	25	0.2	Shallow engraving passes.
Glass-Epoxy PCB	Flat Endmill	0.5	500	60	30	0.2	Carbide tools recommended.
Glass-Epoxy PCB	Flat Endmill	1.0	600	120	60	0.3	
Glass-Epoxy PCB	Flat Endmill	1.5	600	180	80	0.3	
Glass-Epoxy PCB	Flat Endmill	2.0	600	200	100	0.4	
Glass-Epoxy PCB	V-shaped Mill	0.1 Tip	500	50	25	0.2	Precise PCB engraving.