ISO Code	Work Material	Type of Cut	Axial DOC	Radial DOC	Number of Flutes	Speed (SFM)	Feed (Inch per Tooth) 1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
N	Aluminum Alloys 2024, 6061, 7075	Slotting	1 x D	1 x D	2	800	.0015	.0023	.0030	.0038	.0045	.0060	.0075	.0090	.0120
		Peripheral - Rough	1 x D	.75 x D	2	1000	.0019	.0028	.0038	.0047	.0056	.0075	.0094	.0113	.0150
		Peripheral - Finish	1.5 x D	.01 x D	2	1200	.0024	.0035	.0047	.0059	.0071	.0094	.0118	.0141	.0188
	High Silicon Aluminum A380, A390	Slotting	.75 x D	1 x D	2	500	.0013	.0020	.0026	.0033	.0039	.0052	.0065	.0078	.0104
		Peripheral - Rough	1 x D	.5 x D	2	700	.0016	.0024	.0033	.0041	.0049	.0065	.0081	.0098	.0130
		Peripheral - Finish	1.5 x D	.01 x D	2	900	.0020	.0031	.0041	.0051	.0061	.0082	.0102	.0122	.0163
	Magnesium Alloys	Slotting	1 x D	1 x D	2	800	.0015	.0023	.0030	.0038	.0045	.0060	.0075	.0090	.0120
		Peripheral - Rough	1 x D	.75 x D	2	1000	.0019	.0028	.0038	.0047	.0056	.0075	.0094	.0113	.0150
		Peripheral - Finish	1.5 x D	.01 x D	2	1200	.0024	.0035	.0047	.0059	.0071	.0094	.0118	.0141	.0188
	Copper Alloys Brass, Bronze	Slotting	.75 x D	1 x D	2	500	.0013	.0020	.0026	.0033	.0039	.0052	.0065	.0078	.0104
		Peripheral - Rough	1 x D	.75 x D	2	575	.0016	.0024	.0033	.0041	.0049	.0065	.0081	.0098	.0130
		Peripheral - Finish	1.5 x D	.01 x D	2	650	.0020	.0031	.0041	.0051	.0061	.0082	.0102	.0122	.0163
	Composites Plastics, Fiberglass	Slotting	1 x D	1 x D	2	500	.0013	.0020	.0026	.0033	.0039	.0052	.0065	.0078	.0104
		Peripheral - Rough	1 x D	.75 x D	2	700	.0016	.0024	.0033	.0041	.0049	.0065	.0081	.0098	.0130
		Peripheral - Finish	1.5 x D	.01 x D	2	900	.0020	.0031	.0041	.0051	.0061	.0082	.0102	.0122	.0163
	Aluminum Alloys 2024, 6061, 7075	Slotting	.75 x D	1 x D	3	800	.0013	.0020	.0026	.0033	.0039	.0052	.0065	.0078	.0104
		Peripheral - Rough	1 x D	.75 x D	3	1000	.0016	.0024	.0033	.0041	.0049	.0065	.0081	.0098	.0130
		Peripheral - Finish	1.5 x D	.01 x D	3	1200	.0020	.0031	.0041	.0051	.0061	.0082	.0102	.0122	.0163
	High Silicon Aluminum A380, A390	Slotting	.5 x D	1 x D	3	500	.0011	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088
		Peripheral - Rough	1 x D	.5 x D	3	700	.0014	.0021	.0028	.0034	.0041	.0055	.0069	.0083	.0110
		Peripheral - Finish	1.5 x D	.01 x D	3	900	.0017	.0026	.0035	.0043	.0052	.0069	.0086	.0104	.0138
	Magnesium Alloys	Slotting	.75 x D	1 x D	3	800	.0013	.0020	.0026	.0033	.0039	.0052	.0065	.0078	.0104
		Peripheral - Rough	1 x D	.75 x D	3	1000	.0016	.0024	.0033	.0041	.0049	.0065	.0081	.0098	.0130
		Peripheral - Finish	1.5 x D	.01 x D	3	1200	.0020	.0031	.0041	.0051	.0061	.0082	.0102	.0122	.0163
	Copper Alloys Brass, Bronze	Slotting	.75 x D	1 x D	3	500	.0011	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088
		Peripheral - Rough	1 x D	.75 x D	3	575	.0014	.0021	.0028	.0034	.0041	.0055	.0069	.0083	.0110
		Peripheral - Finish	1.5 x D	.01 x D	3	650	.0017	.0026	.0035	.0043	.0052	.0069	.0086	.0104	.0138
	Composites Plastics, Fiberglass	Slotting	1 x D	1 x D	3	500	.0011	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088
		Peripheral - Rough	1 x D	.75 x D	3	700	.0014	.0021	.0028	.0034	.0041	.0055	.0069	.0083	.0110
		Peripheral - Finish	1.5 x D	.01 x D	3	900	.0017	.0026	.0035	.0043	.0052	.0069	.0086	.0104	.0138

D = Tool Diameter

≈ Approximately Equals
≤ Less Than or Equal To
≥ Greater Than or Equal To
× Multiply
< Less Than
> Greater Than
= Equals

Common Machining Formulas

$$RPM = \frac{SFM \times 3.82}{D}$$

$$SFM = RPM \times D \times .262$$

$$IPM = RPM \times IPT \times Z$$

$$MRR = RDOC \times ADOC \times IPM$$

$$RPM = \frac{M/min \times 318.3}{D}$$

$$M/min = RPM \times D \times .00314$$

$$MMPM = RPM \times MMPT \times Z$$

$$MRR = RDOC \times ADOC \times MMPM$$