

Speed & Feed Guide

General Purpose End Mills GP End Mills | 2, 3, 4 FL | SQ, CR, BN



Profiling			SFM based on RDOC					IPT						
			Material	Hardness	Cutting Diameter Engaged					Cutting Diameter				
		5%			10%	20%	30%	50%	5/16	3/8	1/2	5/8	3/4	1
P	Steel	Free Machining & Low Carbon: 10XX, 11XX, 12XX, A36	≤ 28 Rc	1050	700	385	375	350						
	Steel	Medium/High Carbon Steels, Alloy Steels: 13XX, 41XX, 43XX, 86XX	28-38 Rc	630	420	320	250	210	0.0027	0.0032	0.0045	0.0054	0.0063	0.0090
	Die Steels	A2, H13, L6, P20, S7	28-44 Rc	525	350	300	275	250						
M	Stainless Steels	Ferritic	≤ 28 Rc	650	600	550	500	450						
	Stainless Steels	Martensitic	≤ 28 Rc	525	400	350	300	250	0.0027	0.0032	0.0045	0.0054	0.0063	0.0090
	Stainless Steels	Difficult to Machine, 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	> 28 Rc	525	400	350	300	250						
S	Super Alloys	High Temp, Nimonics, Inconel, Monel, Hastelloy	≤ 42 Rc	265	200	175	150	100	0.0014	0.0016	0.0023	0.0027	0.0032	0.0045
	Super Alloys	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al	≤ 42 Rc	230	200	175	150	125						
H	Hardened Steels	34-65 Rc	45-55 Rc 55-65 Rc	250 200	240 180	230 160	210 150	200 100	0.0018 0.0013	0.0021 0.0014	0.0030 0.0021	0.0036 0.0024	0.0042 0.0029	0.0060 0.0041
K	Cast Iron	Gray: SAE J431, ASTM A48	≤ 240 HB	425	400	375	350	300	0.0027	0.0032	0.0045	0.0054	0.0063	0.0090
	Cast Iron	Ductile & Malleable, ASTM A536, ASTM 897, ASTM A47, ASTM A220	> 240 HB	320	300	250	225	200						
N	Non-Ferrous	Aluminum, Brass, Bronze, Copper, Plastics, Graphite	-	1000	960	920	880	840	0.0027	0.0032	0.0045	0.0054	0.0063	0.0090

Slotting			SFM			IPT						
			Material	Hardness	Cutting Diameter Engaged			Cutting Diameter				
		25%			50%	100%	5/16	3/8	1/2	5/8	3/4	1
P	Steel	Free Machining & Low Carbon: 10XX, 11XX, 12XX, A36	≤ 28 Rc	385	370	350						
	Steel	Medium/High Carbon Steels, Alloy Steels: 13XX, 41XX, 43XX, 86XX	28-38 Rc	245	230	2210	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	Die Steels	A2, H13, L6, P20, S7	28-44 Rc	210	195	175						
M	Stainless Steels	Ferritic	≤ 28 Rc	385	370	350						
	Stainless Steels	Martensitic	≤ 28 Rc	245	210	175	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	Stainless Steels	Difficult to Machine, 302B, 304B, 309, 310, 316, 316Ti, PH13-8Mo	> 28 Rc	210	195	175						
S	Super Alloys	High Temp, Nimonics, Inconel, Monel, Hastelloy	≤ 42 Rc	125	105	90	0.0008	0.0010	0.0013	0.0016	0.0017	0.0026
	Super Alloys	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al	≤ 42 Rc	100	90	80						
H	Hardened Steels	34-65 Rc	34-45 Rc 45-55 Rc 55-65 Rc	245 175 150	230 160 125	210 140 100	0.0016 0.0008 0.0004	0.0019 0.0010 0.0005	0.0025 0.0013 0.0008	0.0031 0.0016 0.0008	0.0038 0.0020 0.0010	0.0050 0.0025 0.0012
K	Cast Iron	Gray: SAE J431, ASTM A48	≤ 240 HB	450	400	350	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	Cast Iron	Ductile & Malleable, ASTM A536, ASTM 897, ASTM A47, ASTM A220	> 240 HB	300	250	225						
N	Non-Ferrous	Aluminum, Brass, Bronze, Copper, Plastics, Graphite	-	750	600	450	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050

