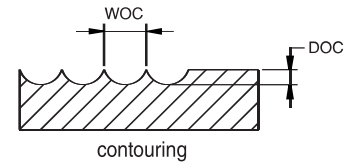


Recommended Starting Speed and Feeds



End Mill Series – BNEC and DBNEC

1) These guidelines may require possible variations to achieve optimum results.



Low & Plain Carbon Steels, Alloy & Tool Steels (<286 HB) <30 HRC

AISI: 1008, 1010, 1018, 1141, 12L13, 12L14, 1045, 1335, 4140, 4340, 5120, 8620, P20

cutting speed (SFM)

K600	250-300
KC610M	300-400
KC635M	350-450

	application parameters		feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	DOC	WOC	2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0006	.0010	.0014	.0017	.0020	.0024	.0030	.0035	.0045

Plain Carbon, Alloy & Tool Steels (294-371 HB) 31-40 HRC

Tool steels: H10, H11, Alloy steels AISI: 1335, 4140, 4150, 4320, 4340, 4422, 5120, 8620

cutting speed (SFM)

KC610M	225-275
KC635M	300-350

	application parameters		feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	DOC	WOC	2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0004	.0007	.0010	.0013	.0015	.0020	.0025	.0030	.0040

Austenitic Stainless Steels (200 & 300 Series) Including Duplex (135-275 HB) <28 HRC

AISI: 201, 209, 219, 302, 303, 304, 316, 321, 347, 329, ASTM: XM-1, XM-7, XM-21, CF-8M

cutting speed (SFM)

KC610M	250-350
KC635M	300-400

	application parameters		feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	DOC	WOC	2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0005	.0010	.0015	.0017	.0020	.0025	.0030	.0035	.0040

Ferritic, Martensitic (400 & 500 Series) & PH Stainless Steels (<371 HB) <40 HRC

AISI: 416, 416F, 416Se, 420F, PH Steels 15-5 PH, 17-4 H, 17-7 PH

cutting speed (SFM)

KC610M	200-275
KC635M	275-350

	application parameters		feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	DOC	WOC	2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0004	.0007	.0010	.0013	.0015	.0020	.0025	.0030	.0040

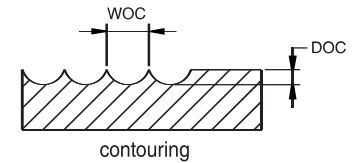
NOTE: Above guidelines may require possible variations to achieve optimum results.

Recommended Starting Speed and Feeds



End Mill Series – BNEC and DBNEC

1) These guidelines may require possible variations to achieve optimum results.



Inserts

Face Mills

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Gray Cast Iron (120-220 HB) <18 HRC

ASTM A48: Class 20, 25, 30, 35, 40, 45, 50, 55, 60, SAE J431: grade G1800, G3000, G3500

cutting speed (SFM)

K600	300-400
KC635M	450-550

application parameters			feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
DOC	WOC		2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0005	.0010	.0020	.0030	.0035	.0040	.0045	.0050	.0055

Gray Cast Iron (220-320 HB) 19-34 HRC

ASTM A48: Class 20, 25, 30, 35, 40, 45, 50, 55, 60, SAE J431: grade G1800, G3000, G3500

cutting speed (SFM)

K600	250-325
KC635M	350-450

application parameters			feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
DOC	WOC		2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0003	.0005	.0010	.0020	.0030	.0035	.0040	.0045	.0050	.0055

Aluminum and Other Free-Machining, Non-Ferrous Materials, Low Silicon

Aluminum, 6061-T6, 7075-T6, brass: SAE: J461, J463; ASTM: B121 B453 B505

cutting speed (SFM)

K600	600-4000
KC635M	600-6000

application parameters			feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
DOC	WOC		2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0004	.0006	.0010	.0013	.0015	.0020	.0024	.0035	.0040	.0050

Aluminum and Other Free-Machining, Non-Ferrous Materials, High Silicon

AA number: 308 (5.5), A355 (5.0), A380 (8.5), A360 (9.5), 383 (10.5), 4004 (9.8), 4032 (12.2)

cutting speed (SFM)

K600	300-2000
KC635M	300-3000

application parameters			feed per tooth									
			1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
DOC	WOC		2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0004	.0006	.0010	.0013	.0015	.0020	.0024	.0035	.0040	.0050

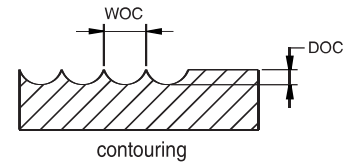
NOTE: Above guidelines may require possible variations to achieve optimum results.

Recommended Starting Speed and Feeds



End Mill Series – BNEC and DBNEC

1) These guidelines may require possible variations to achieve optimum results.



Titanium Alloys

Commercially pure: Ti98.8, Alpha: TiSa12.5SN, Alpha/Beta: Ti-6Al-4V

cutting speed (SFM)

KC635M | 100-200

application parameters	feed per tooth											
	DOC	WOC	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
			2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0002	.0004	.0007	.0010	.0013	.0015	.0018	.0020	.0025	.0030

Titanium Alloys, Nickel Base

Inconel: 601, 617, 625, 718, X-750, 901, Waspaloy, Hastelloy

cutting speed (SFM)

KC635M | 75-150

application parameters	feed per tooth											
	DOC	WOC	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
			2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.5 x dia.	.0002	.0004	.0007	.0010	.0013	.0015	.0018	.0020	.0025	.0030

Hardened Steels (381-481 HB) 41-50 HRC

Tool steels: H10, H11, H13, D2, D3, D5, Alloy steels AISI: 1335, 4140, 4150, 4320, 4340, 5140, 8625, Die steels: P20, P21

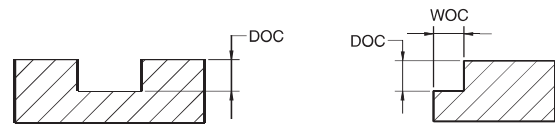
cutting speed (SFM)

KC635M | 200-250

application parameters	feed per tooth											
	DOC	WOC	1/16"	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
			2 mm	8 mm	4 mm	6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
contouring	.2 x dia.	.4 x dia.	.0003	.0004	.0007	.0010	.0013	.0015	.0020	.0025	.0030	.0035

End Mill Series – F3BA...BW.30 and F3BA..BW.30C

1) These guidelines may require possible variations to achieve optimum results.
2) Maximum cutting speed = 8000 SFM.



Aluminum and Other Free-Machining, Non-Ferrous Materials, Low Silicon

Aluminum, 6061-T6, 7075-T6

application	maximum cutting parameters		cutting speed SFM	feed per tooth						
	DOC	WOC		1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
				6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
profiling	1.5 x dia.	.5 x dia.	800-3200	.0022	.0028	.0033	.0039	.0050	.0057	.0075
slotting	1 x dia.	–	600-3000	.0018	.0022	.0026	.0030	.0040	.0045	.0060

Aluminum and Other Free-Machining, Non-Ferrous Materials, High Silicon

AA number: 308 (5.5), A355 (5.0), A380 (8.5), A360 (9.5), 383 (10.5), 4004 (9.8), 4032 (12.2)

application	maximum cutting parameters		cutting speed SFM	feed per tooth						
	DOC	WOC		1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
				6 mm	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
profiling	1.5 x dia.	.5 x dia.	500-1200	.0018	.0023	.0028	.0032	.0042	.0048	.0060
slotting	1 x dia.	–	400-1000	.0014	.0018	.0022	.0025	.0033	.0038	.0048