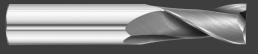
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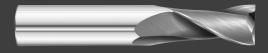
3215 Series 2-Flute End Mill is offered in an extensive variety of configurations.

Not Recommended for High Si Aluminum (>10%), Composites, Plastics, Graphite, or Hardened Steels > 48RC. The parameters listed for tool series that are stocked uncoated are based on running an uncoated tool. If a coating is applied to the tools, the SFM can be increased by approximately 25%. All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analytzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance.

			Low Si Aluminum (<10%) (1100-1500) SFM (ft/min)				Brass & Copper (400-600) SFM (ft/min)				Cast Iron (250-400) SFM (ft/min)						
©			Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish
	S	Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)
		Radial Width	full	full	(.35)xD	(.115)xD	(.010015)	full	full	(.35)xD	(.115)xD	(.010015)	full	full	(.35)xD	(.115)xD	(.010015)
		1/8"	.0039	.0051	.0039	.0051	.0039	.0004	.0006	.0004	.0006	.0004	.0004	.0008	.0004	.0008	.0004
		1/4"	.0042	.0059	.0042	.0059	.0042	.0008	.0012	.0008	.0012	.0008	.0008	.0020	.0008	.0020	.0008
		3/8"	.0046	.0068	.0046	.0068	.0046	.0020	.0025	.0020	.0025	.0020	.0018	.0036	.0018	.0036	.0018
		1/2"	.0050	.0077	.0050	.0077	.0050	.0033	.0036	.0033	.0036	.0033	.0025	.0049	.0025	.0049	.0025
		3/4"	.0055	.0088	.0055	.0088	.0055	.0045	.0049	.0045	.0049	.0045	.0033	.0060	.0033	.0060	.0033
		1"	.0059	.0098	.0059	.0098	.0059	.0059	.0062	.0059	.0062	.0059	.0039	.0071	.0039	.0071	.0039
				Steels (230-350) SFM (ft/min)				Stainless Steels (130-260) SFM (ft/min)				Super Alloys (Nickel Based, Inconel) (80-120) SFM (ft/min)					
Ш			Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish
	(2)	Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)
		Radial Width	full	full	(.35)xD	(.115)xD	(.010015)	full	full	(.35)xD	(.115)xD	(.010015)	full	full	(.35)xD	(.115)xD	(.010015)
		1/8"	.0004	.0006	.0004	.0006	.0004	.0002	.0004	.0002	.0004	.0002	.0002	.0004	.0002	.0004	.0002
		1/4"	.0012	.0017	.0012	.0018	.0012	.0006	.0008	.0006	.0008	.0006	.0004	.0008	.0004	.0008	.0004
		3/8"	.0022	.0030	.0022	.0030	.0022	.0010	.0012	.0010	.0012	.0010	.0006	.0011	.0006	.0011	.0006
	ш	1/2"	.0030	.0045	.0030	.0045	.0030	.0014	.0018	.0014	.0018	.0014	.0008	.0015	.0008	.0015	.0008
		3/4"	.0039	.0060	.0039	.0060	.0039	.0017	.0024	.0017	.0024	.0017	.0010	.0018	.0010	.0018	.0010
	4	1"	.0047	.0071	.0047	.0071	.0047	.0020	.0031	.0020	.0031	.0020	.0012	.0020	.0012	.0020	.0012
4	S			(120	Titanium -200) SFM (ft/	min)											

	Titanium (120-200) SFM (ft/min)									
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish					
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)					
Radial Width	full	full	(.35)xD	(.115)xD	(.010015)					
1/8"	.0002	.0004	.0002	.0004	.0002					
1/4"	.0006	.0010	.0006	.0010	.0006					
3/8"	.0010	.0016	.0010	.0016	.0010					
1/2"	.0014	.0022	.0014	.0022	.0014					
3/4"	.0017	.0026	.0017	.0026	.0017					
1"	.0020	.0031	.0020	.0031	.0020					

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Not Recommended for High Si Aluminum (>10%), Composites, Plastics, Graphite, or Hardened Steels > 48RC. The parameters listed for tool series that are stocked uncoated are based on running an uncoated tool. If a coating is applied to the tools, the SFM can be increased by approximately 25%. All speed and feed recommendations should be considered only as a starting point. Start with conservative speeds and feeds while analyzing the rigidity of the process. Then cautiously progress incrementally to achieve optimum performance.

	Low Si Aluminum (<10%) (335-457) SMM (m/min)				Brass & Copper (121-182) SMM (m/min)					Cast Iron (76-121)SMM (m/min)					
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	НЕМ	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)
Radial Width	full	full	(.35)xD	(.115)xD	(.2540)	full	full	(.35)xD	(.115)xD	(.2540)	full	full	(.35)xD	(.115)xD	(.2540)
3	.0991	.1295	.0991	.1295	.0991	.0102	.0152	.0102	.0152	.0102	.0102	.0203	.0102	.0203	.0102
6	.1067	.1499	.1067	.1499	.1067	.0203	.0305	.0203	.0305	.0203	.0203	.0508	.0203	.0508	.0203
10	.1168	.1727	.1168	.1727	.1168	.0508	.0635	.0508	.0635	.0508	.0457	.0914	.0457	.0914	.0457
12	.1270	.1956	.1270	.1956	.1270	.0838	.0914	.0838	.0914	.0838	.0635	.1245	.0635	.1245	.0635
20	.1397	.2235	.1397	.2235	.1397	.1143	.1245	.1143	.1245	.1143	.0838	.1524	.0838	.1524	.0838
25	.1499	.2489	.1499	.2489	.1499	.1499	.1575	.1499	.1575	.1499	.0991	.1803	.0991	.1803	.0991
	Steels (70-106) SMM (m/min)														
		(70-		min)				Stainless Steel: -85) SMM (m/r					ys (Nickel Base 1-36) SMM (m/r		
	Slotting	(70-1 Plunge Ramp		min) HEM	Finish	Slotting				Finish	Slotting				Finish
Axial Depth	Slotting < (1xD)	Plunge	106) SMM (m/i Rough		Finish < (1xD)	Slotting < (1xD)	(39 Plunge	-85) SMM (m/r Rough	nin)	Finish < (1xD)	Slotting < (1xD)	. (24 Plunge	-36) SMM (m/r Rough	min)	Finish < (1xD)
Axial Depth Radial Width		Plunge Ramp	106) SMM (m/i Rough Profile	HEM			(39 Plunge Ramp	-85) SMM (m/r Rough Profile	nin) HEM			. (24 Plunge Ramp	-36) SMM (m/r Rough Profile	nin) HEM	
	< (1xD)	Plunge Ramp < (1xD)	106) SMM (m/i Rough Profile 1.5xD	HEM 1xD	< (1xD)	< (1xD)	(39 Plunge Ramp < (1xD)	-85) SMM (m/r Rough Profile 1.5xD	nin) HEM 1xD	< (1xD)	< (1xD)	Plunge Ramp < (1xD)	-36) SMM (m/r Rough Profile 1.5xD	nin) HEM 1xD	< (1xD)
Radial Width	< (1xD) full	Plunge Ramp <(1xD) full	Rough Profile 1.5xD (.35)xD	1xD (.115)xD	< (1xD) (.2540)	< (1xD) full	Plunge Ramp < (1xD) full	-85) SMM (m/r Rough Profile 1.5xD (.35)xD	HEM 1xD (.115)xD	< (1xD) (.2540)	< (1xD) full	Plunge Ramp < (1xD)	Rough Profile 1.5xD (.35)xD	HEM 1xD (.115)xD	< (1xD) (.2540)
Radial Width	< (1xD) full .0102	Plunge Ramp < (1xD) full .0152	Rough Profile 1.5xD (.35)xD	1xD (.115)xD .0152	< (1xD) (.2540) .0102	< (1xD) full .0051	Plunge Ramp < (1xD) full .0102	-85) SMM (m/r Rough Profile 1.5xD (.35)xD	HEM 1xD (.115)xD .0102	< (1xD) (.2540) .0051	< (1xD) full .0051	Plunge Ramp < (1xD) full .0102	Rough Profile 1.5xD (.35)xD	HEM 1xD (.115)xD .0102	< (1xD) (.2540) .0051
Radial Width 3	< (1xD) full .0102 .0305	Plunge Ramp < (1xD) full .0152 .0432	Rough Profile 1.5xD (.35)xD .0102	1xD (.115)xD .0152 .0457	< (1xD) (.2540) .0102 .0305	< (1xD) full .0051 .0152	(39 Plunge Ramp <(1xD) full .0102 .0203	-85) SMM (m/r Rough Profile 1.5xD (.35)xD .0051	HEM 1xD (.115)xD .0102 .0203	< (1xD) (.2540) .0051	< (1xD) full .0051	(24 Plunge Ramp < (1xD) full .0102 .0203	-36) SMM (m/r Rough Profile 1.5xD (.35)xD .0051	HEM 1xD (.115)xD .0102 .0203	< (1xD) (.2540) .0051
Radial Width 3 6 10	< (1xD) full .0102 .0305 .0559	Plunge Ramp < (1xD) full .0152 .0432 .0762	Rough Profile 1.5xD (.35)xD .0102 .0305 .0559	HEM 1xD (.115)xD .0152 .0457 .0762	< (1xD) (.2540) .0102 .0305 .0559	< (1xD) full .0051 .0152 .0254	(39 Plunge Ramp < (1xD) full .0102 .0203 .0305	-85) SMM (m/r Rough Profile 1.5xD (.35)xD .0051 .0152 .0254	HEM 1xD (.115)xD .0102 .0203 .0305	< (1xD) (.2540) .0051 .0152 .0254	< (1xD) full .0051 .0102 .0152	(24 Plunge Ramp < (1xD) full .0102 .0203 .0279	-36) SMM (m/r Rough Profile 1.5xD (.35)xD .0051 .0102	HEM 1xD (.115)xD .0102 .0203 .0279	< (1xD) (.2540) .0051 .0102 .0152

	Titanium (36-60) SMM (m/min)								
	Slotting	Plunge Ramp	Rough Profile	НЕМ	Finish				
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)				
Radial Width	full	full	(.35)xD	(.115)xD	(.2540)				
3	.0051	.0102	.0051	.0102	.0051				
6	.0152	.0254	.0152	.0254	.0152				
10	.0254	.0406	.0254	.0406	.0254				
12	.0356	.0559	.0356	.0559	.0356				
20	.0432	.0660	.0432	.0660	.0432				
25	.0508	.0787	.0508	.0787	.0508				