

3200, 2004 JIT GENERAL PURPOSE - IMPERIAL



3200 Series 4-Flute End Mill is offered in an extensive variety of configurations.

Not Recommended for High Si Aluminum (>10%), Composites, Plastics, or Graphite.

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.

FULLERTON
SPEEDS / FEEDS

	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
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)
Radial Width	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)
1/8"	.0010	.0012	.0010	.0012	.0010	.0009	.0011	.0007	.0011	.0007	.0010	.0012	.0008	.0012	.0008
1/4"	.0030	.0034	.0030	.0034	.0030	.0013	.0014	.0009	.0015	.0009	.0014	.0015	.0010	.0015	.0010
3/8"	.0045	.0048	.0045	.0048	.0045	.0021	.0020	.0012	.0021	.0012	.0022	.0022	.0013	.0022	.0013
1/2"	.0060	.0063	.0060	.0063	.0060	.0025	.0028	.0025	.0028	.0025	.0025	.0030	.0025	.0030	.0025
3/4"	.0080	.0085	.0080	.0085	.0080	.0030	.0035	.0028	.0035	.0028	.0028	.0035	.0030	.0035	.0030
1"	.0100	.0114	.0100	.0114	.0100	.0040	.0045	.0035	.0040	.0035	.0035	.0045	.0040	.0045	.0040
	Hardened Steels > 48 RC (80-130) SFM (ft/min)					Steels (230-350) SFM (ft/min)					Stainless Steels (130-260) SFM (ft/min)				
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	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	(.3-.5)xD	(.1-.15)xD	(.010-.015)	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)
1/8"	.0008	.0009	.0008	.0009	.0008	.0006	.0008	.0006	.0008	.0006	.0006	.0008	.0006	.0008	.0006
1/4"	.0015	.0016	.0015	.0016	.0015	.0014	.0014	.0014	.0014	.0014	.0014	.0014	.0014	.0014	.0014
3/8"	.0020	.0022	.0020	.0022	.0020	.0022	.0022	.0022	.0022	.0022	.0022	.0022	.0022	.0022	.0022
1/2"	.0025	.0025	.0025	.0025	.0025	.0025	.0025	.0025	.0025	.0025	.0023	.0023	.0023	.0023	.0023
3/4"	.0028	.0030	.0028	.0030	.0028	.0028	.0028	.0028	.0028	.0028	.0025	.0025	.0025	.0025	.0025
1"	.0030	.0035	.0030	.0035	.0030	.0035	.0035	.0035	.0035	.0035	.0027	.0027	.0027	.0027	.0027
	Super Alloys (Nickel Based, Inconel) (80-120) SFM (ft/min)					Titanium (120-200) SFM (ft/min)									
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish					
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)					
Radial Width	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)	full	full	(.3-.5)xD	(.1-.15)xD	(.010-.015)					
1/8"	.0003	.0004	.0003	.0004	.0003	.0003	.0004	.0003	.0004	.0003					
1/4"	.0007	.0010	.0008	.0010	.0008	.0007	.0007	.0007	.0007	.0007					
3/8"	.0012	.0015	.0015	.0015	.0015	.0011	.0011	.0011	.0011	.0011					
1/2"	.0018	.0020	.0020	.0020	.0020	.0014	.0014	.0014	.0014	.0014					
3/4"	.0025	.0028	.0025	.0025	.0025	.0018	.0018	.0018	.0018	.0018					
1"	.0030	.0035	.0030	.0030	.0030	.0025	.0025	.0025	.0025	.0025					

3200, 2004 JIT GENERAL PURPOSE - METRIC



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FULLERTON
SPEEDS / FEEDS

	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	HEM	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	(.3-.5)xD	(.1-.15)xD	(.25-.40)	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)
3	.0254	.0305	.0254	.0305	.0254	.0229	.0279	.0178	.0279	.0178	.0254	.0305	.0203	.0305	.0203
6	.0762	.0864	.0762	.0864	.0762	.0330	.0356	.0229	.0381	.0229	.0356	.0381	.0254	.0381	.0254
10	.1143	.1219	.1143	.1219	.1143	.0533	.0508	.0305	.0533	.0305	.0559	.0559	.0330	.0559	.0330
12	.1524	.1600	.1524	.1600	.1524	.0635	.0711	.0635	.0711	.0635	.0635	.0762	.0635	.0762	.0635
20	.2032	.2159	.2032	.2159	.2032	.0762	.0889	.0711	.0889	.0711	.0711	.0889	.0762	.0889	.0762
25	.2540	.2896	.2540	.2896	.2540	.1016	.1143	.0889	.1016	.0889	.0889	.1143	.1016	.1143	.1016
	Hardened Steels > 48 RC (24-39) SMM (m/min)					Steels (70-106) SMM (m/min)					Stainless Steels (39-85) SMM (m/min)				
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	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	(.3-.5)xD	(.1-.15)xD	(.25-.40)	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)
3	.0203	.0229	.0203	.0229	.0203	.0152	.0203	.0152	.0203	.0152	.0152	.0203	.0152	.0203	.0152
6	.0381	.0406	.0381	.0406	.0381	.0356	.0356	.0356	.0356	.0356	.0356	.0356	.0356	.0356	.0356
10	.0508	.0559	.0508	.0559	.0508	.0559	.0559	.0559	.0559	.0559	.0559	.0559	.0559	.0559	.0559
12	.0635	.0635	.0635	.0635	.0635	.0635	.0635	.0635	.0635	.0635	.0584	.0584	.0584	.0584	.0584
20	.0711	.0762	.0711	.0762	.0711	.0711	.0711	.0711	.0711	.0711	.0635	.0635	.0635	.0635	.0635
25	.0762	.0889	.0762	.0889	.0762	.0889	.0889	.0889	.0889	.0889	.0686	.0686	.0686	.0686	.0686
	Super Alloys (Nickel Based, Inconel) (24-36) SMM (m/min)					Titanium (36-60) SMM (m/min)									
	Slotting	Plunge Ramp	Rough Profile	HEM	Finish	Slotting	Plunge Ramp	Rough Profile	HEM	Finish					
Axial Depth	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)	< (1xD)	< (1xD)	1.5xD	1xD	< (1xD)					
Radial Width	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)	full	full	(.3-.5)xD	(.1-.15)xD	(.25-.40)					
3	.0076	.0102	.0076	.0102	.0076	.0076	.0102	.0076	.0102	.0076					
6	.0178	.0254	.0203	.0254	.0203	.0178	.0178	.0178	.0178	.0178					
10	.0305	.0381	.0381	.0381	.0381	.0279	.0279	.0279	.0279	.0279					
12	.0457	.0508	.0508	.0508	.0508	.0356	.0356	.0356	.0356	.0356					
20	.0635	.0711	.0635	.0635	.0635	.0457	.0457	.0457	.0457	.0457					
25	.0762	.0889	.0762	.0762	.0762	.0635	.0635	.0635	.0635	.0635					