



3820-Hercules

F.A.S.I.
Fullerton Advanced Solutions Team



Imperial Units

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. Contact Fullerton Tool directly for any additional support.

Corner Radius

	High Si Aluminum (>10%)						Low Si Aluminum (<10%)						Composites					
	Do Not Use						Do Not Use						Do Not Use					
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
Plastics																		
Do Not Use																		
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
Cast Iron																		
Do Not Use																		
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
Hardened Steels > 48 RC																		
Do Not Use																		
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
Stainless Steels																		
Do Not Use																		
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
Super Alloys (Nickel based, Inconel)																		
Do Not Use																		
	Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile		Profile	
	Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*		Slotting*	Plunge*	Rough	Finish	Pocket*	
Axial Depth	< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)		< (1 x D)	< (1 x D)	1.5 x D	1 x D	< (1 x D)	
Radial Width	full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D		full	full	(.3 -.5) x D	(.010 -.015)	(.3 -.5) x D	
1/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/8	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1/2	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
3/4	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
1	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-	
	IPT (in/tooth)																	
	IPT (in/tooth)																	

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 * (1 x D) or greater slot and pocket; reduce chip load by 25%