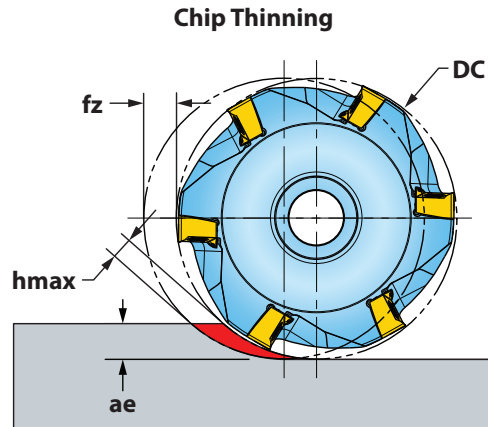# OPERATING GUIDELINES

Chip Thinning

* Chip Thinning Calculator is recommended to ensure hmax is within fz range.

	Materials			Vc Cutting Speed SFM	fz* Feed/Tooth (inch)	Harder <----------------------------------> Tougher				Coolant
ISO	Mat'l Group #VDI 3323	Type	Examples			IN2504	IN2510	IN2505	IN80B	
P	1 thru 5	Non-alloy Steel	1018, A36, 1045, A572, 1070	500-1000	.003-.008	2		1		No
	6 thru 9	Low-alloy Steel	4140, 4340, P20, 8620, 300M	400-700						
	10, 11	High-alloy Steel	H13, A2, D2, M2, T1	300-600						
K	15 thru 16	Gray Cast Iron	CLS. 20, 30, 45	500-1000	.003-.008	1	2			No
				1400-2600	.003-.006				1	
	17 thru 20	Nodular Cast Iron	60-40-18, 100-70-03	400-800	.003-.008	1	2			
				1300-2000	.003-.006				1	
		CGI	CGI	300-500	.003-.005	1	2			
H	38 thru 39	Hardened Steel >48	A2, O1, D2	250-600	.003-.006	1			2	No

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.