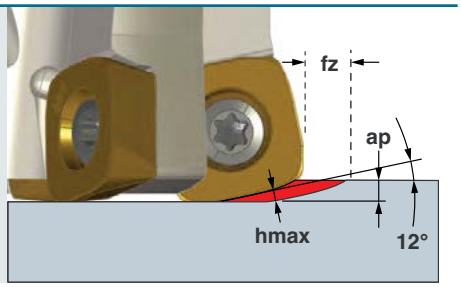
16 mm • Operating Guidelines

AXIAL CHIP THINNING

NOTE: The operating guidelines table below includes a column for feed-per-tooth (fz). That column accounts for the axial chip thinning that's generated by the cutting-edge angle (lead angle). All GoldSFeed high-feed cutters have a 12° cutting edge angle resulting in an fz that is approximately 5x the recommended chip thickness (hex).



Materials				Vc Cutting Speed SFM	Hex Max. Chip Thickness (inch)	fz* Feed/ Tooth (inch)	Harder «---------» Tougher								Coolant	Geometry		
ISO	Mat'l Group #VDI 3323	Type	Examples				IN4015	IN2515	IN4005	IN2505	IN4030	IN2530	IN7035	IN4035	IN2535		MR	MR1	MM
P	1-5	Non-alloy steel	1018, A36, 1045, A572, 1070	400-600	.008-.022	.040-.110	-	-	1	2	3	4	-	-	-	No	1	2	3
	6-9	Low-alloy steel	4140, 4340, P20, 8620, 300M	300-500	.008-.018	.040-.090	-	-	1	2	3	4	-	-	-	No	1	2	3
	10, 11	High-alloy steel	H13, A2, D2, M2, T1	200-400	.008-.015	.040-.075	-	-	1	2	3	4	-	-	-	No	1	2	3
M	12, 13	Stainless steel (ferritic & martensitic)	410, 416, 440	200-400	.006-.012	.030-.060	-	-	-	-	4	3	-	2	1	Yes	-	1	2
	14	Stainless steel (austenitic)	303, 304, 316, 15-5, 17-4	300-500	.004-.008	.020-.040	-	-	-	-	4	3	-	2	1	Yes	-	2	1
K	15, 16	Gray cast iron	CLS. 20, 30, 45	500-900	.004-.025	.020-.125	1	2	3	4	-	-	-	-	-	No	3	1	2
	17-20	Nodular cast iron	60-40-18, 100-70-03	300-700	.004-.020	.020-.100	1	2	3	4	-	-	-	-	-	No	3	1	2
N	21-30	Aluminum	7075, 6061	1000+	.004-.025	.020-.125	1	2	3	4	-	-	-	-	-	Yes	-	2	1
S	31-35	High-temp alloys	Inconel, Hastelloy, Nimonic, Monel	50-100	.002-.005	.010-.025	-	-	-	-	-	4	3	2	1	Yes	-	1	2
	36, 37	Titanium alloys	6Al-4V, 5Al-5Mo-5V-3Cr	90-150	.004-.008	.020-.040	-	-	-	-	-	4	3	2	1	Yes	-	1	2
H	38, 39	Hardened steel >48	A2, O1, D2	100-200	.003-.005	.015-.025	-	-	1	2	-	-	-	-	-	No	1	-	-

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.