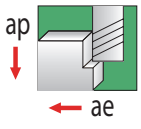
GARR TOOL X3, G3 High Performance Milling Guide

ISO Material		HRC	M/Min. (Vc)	CHIPLOAD PER TOOTH (Fz) 1.0mm	2.0mm	3.0mm	4.0mm	5.0mm	6.0mm
S	**COBALT BASE ALLOYS**								
	Powdered Metal, Stellite, Hs-21, Haynes 25/188, X-40, L-605	< 40 > 40	37 - 75 30 - 60	.003 - .008 .003 - .008	.005 - .020 .003 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .033	.020 - .051 .015 - .046
	NICKEL BASE ALLOYS								
	Invar, Kovar, Inconel-625/718, Waspaloy, Rene, Hastelloy, A286	< 40 > 40	37 - 75 30 - 60	.003 - .008 .003 - .008	.005 - .020 .003 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .033	.020 - .051 .015 - .046
	IRON BASE ALLOYS								
	Incoloy 800-802, Multimet N-155, Timkin 16-25-6, Carpenter 22-b3	< 40 > 40	37 - 75 30 - 60	.003 - .008 .003 - .008	.005 - .020 .003 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .033	.020 - .051 .015 - .046
	MONEL								
	Monel - 65% Nickel		50 - 90	.003 - .008	.005 - .020	.013 - .025	.015 - .028	.018 - .038	.020 - .051
	TITANIUM ALLOYS								
	Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-2SN-4Zr-2Mo-Si		80 - 150	.003 - .008	.008 - .020	.013 - .025	.015 - .028	.018 - .038	.023 - .048
	5553 / Beta Titanium		60 - 110	.003 - .008	.008 - .018	.013 - .025	.015 - .028	.015 - .036	.023 - .043
M	**STAINLESS STEELS**								
	13/8, 15/5, 17-4, pH Types	< 40 > 40	90 - 150 70 - 110	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .033	.018 - .046 .015 - .038
	200 Series, 300 Series	< 40 > 40	110 - 170 90 - 140	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .036	.018 - .046 .015 - .038
	304L, 316L, Nitronic 50	< 40 > 40	100 - 160 70 - 110	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .036	.018 - .046 .015 - .036
	400 Series	< 40 > 40	90 - 170 70 - 130	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .038 .013 - .036	.018 - .046 .015 - .036
P	**HIGH STRENGTH TOOL STEELS**								
	A2, D2, P20, H13, S7, O1	< 40 > 40	90 - 160 60 - 130	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .025 .008 - .023	.015 - .028 .010 - .025	.018 - .036 .013 - .028	.020 - .046 .018 - .036
	MEDIUM ALLOY TOOL STEELS								
	4140, 4340, 52100, 6150, 8620	< 40 > 40	140 - 200 100 - 150	.003 - .008 .003 - .008	.008 - .020 .005 - .015	.010 - .028 .008 - .025	.015 - .028 .010 - .025	.018 - .038 .013 - .036	.020 - .048 .018 - .036
	CARBON STEELS								
	1000's - 1018, 1020, 12L14	< 40	150 - 240	.003 - .008	.008 - .020	.010 - .030	.015 - .028	.013 - .041	.025 - .038
K	**CAST MATERIAL**								
	Steel (Malleable)		140 - 210	.003 - .008	.008 - .020	.013 - .025	.015 - .028	.018 - .046	.023 - .058
	Ductile Iron		140 - 210	.003 - .008	.008 - .020	.013 - .025	.015 - .028	.018 - .046	.023 - .058
	Gray Iron		180 - 235	.003 - .008	.008 - .020	.013 - .025	.015 - .028	.018 - .046	.025 - .056

	Profile/Trochoidal Milling	Slotting
Axial (ap)	MAX	0.5 to 1xD
Radial (ae)	Up to 15% Dia.	1xD



NOTE - DATA DOES NOT REFLECT CHIP THINNING.

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.