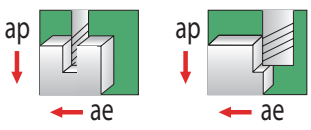
NOTE - DATA DOES NOT REFLECT CHIP THINNING.

SPINDLE INTERFACE MUST BE SCRUTINIZED WHEN USING 16mm DIAMETER AND LARGER END MILLS

	ISO Material	HRC	M/Min. (Vc)	CHIPLOAD PER TOOTH (Fz) 1.5mm	3.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.0mm	16.0mm	20.0mm	25.0mm
S	**COBALT BASE ALLOYS**												
	Haynes 25/188, Stellite 21, Cobalt Chrome	< 40 > 40	25 - 45 20 - 40	.008 - .015 .008 - .012	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .030 .015 - .025	.020 - .038 .018 - .033	.025 - .048 .023 - .043	.036 - .061 .030 - .051	.041 - .076 .036 - .066	.051 - .097 .046 - .086	.071 - .122 .061 - .102
	NICKEL BASE ALLOYS												
	Inconel-625/718, Waspaloy, Invar, Rene, Hastelloy, Monel	< 40 > 40	25 - 45 20 - 40	.008 - .015 .008 - .012	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .030 .015 - .025	.020 - .038 .018 - .033	.025 - .048 .023 - .043	.036 - .061 .030 - .051	.041 - .076 .036 - .066	.051 - .097 .046 - .086	.071 - .122 .061 - .102
	IRON BASE ALLOYS												
	A286, Discaloy, Haynes 556, Carpenter 22, Greek Ascolloy	< 40 > 40	25 - 45 20 - 40	.008 - .015 .008 - .012	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .030 .015 - .025	.020 - .038 .018 - .033	.025 - .048 .023 - .043	.036 - .061 .030 - .051	.041 - .076 .036 - .066	.051 - .097 .046 - .086	.071 - .122 .061 - .102
	TITANIUM ALLOYS												
	Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-2SN-4Zr-2Mo-Si		55 - 90	.008 - .015	.010 - .018	.013 - .020	.018 - .036	.020 - .043	.025 - .053	.036 - .071	.041 - .086	.051 - .107	.071 - .142
	5553 / Beta Titanium		40 - 70	.008 - .015	.008 - .018	.010 - .020	.018 - .030	.020 - .038	.025 - .048	.036 - .061	.041 - .076	.051 - .097	.071 - .122
M	**STAINLESS STEELS**												
	13/8, 15/5, 17-4, pH Types	< 40 > 40	55 - 90 45 - 70	.008 - .015 .008 - .013	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .030 .015 - .025	.020 - .038 .018 - .033	.025 - .048 .023 - .043	.036 - .061 .030 - .051	.041 - .076 .036 - .066	.051 - .097 .046 - .086	.071 - .122 .056 - .102
	300 Series, 304L, Nitronic 50, Duplex, Super-Austenitic	< 40 > 40	60 - 100 55 - 75	.008 - .015 .008 - .013	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .030 .015 - .028	.020 - .038 .018 - .036	.025 - .048 .023 - .046	.036 - .061 .030 - .056	.041 - .076 .036 - .071	.051 - .097 .046 - .091	.071 - .122 .061 - .112
	400 Series - 403, 405, 420, 455	< 40 > 40	70 - 110 55 - 75	.008 - .015 .008 - .013	.010 - .018 .008 - .015	.013 - .020 .010 - .018	.018 - .033 .015 - .028	.020 - .041 .018 - .036	.025 - .051 .023 - .046	.036 - .066 .030 - .056	.041 - .081 .036 - .071	.061 - .109 .046 - .091	.071 - .132 .061 - .112
P	**HIGH STRENGTH TOOL STEELS**												
	A2, D2, P20, H13, S7, O1	< 40 > 40	55 - 90 40 - 85	.010 - .018 .008 - .013	.013 - .020 .008 - .013	.015 - .025 .013 - .020	.020 - .033 .018 - .025	.023 - .041 .020 - .033	.028 - .051 .025 - .043	.041 - .066 .036 - .051	.046 - .081 .041 - .066	.056 - .102 .051 - .086	.081 - .132 .071 - .102
	MEDIUM ALLOY TOOL STEELS												
	4140, 4340, 52100, 6150, 8620	< 40 > 40	75 - 120 70 - 90	.010 - .018 .008 - .013	.013 - .020 .008 - .013	.015 - .025 .013 - .020	.020 - .036 .018 - .028	.023 - .043 .020 - .036	.028 - .053 .025 - .046	.041 - .071 .036 - .056	.046 - .086 .041 - .071	.056 - .107 .051 - .091	.081 - .142 .071 - .112
	CARBON STEELS												
	1000's - 1018, 1020, 12L14	< 40	90 - 130	.010 - .018	.013 - .020	.015 - .025	.020 - .038	.023 - .046	.028 - .056	.041 - .076	.046 - .091	.056 - .112	.081 - .152
K	**CAST MATERIAL**												
	Ductile Iron		90 - 130	.010 - .018	.013 - .020	.015 - .025	.023 - .041	.025 - .048	.030 - .058	.046 - .081	.051 - .097	.061 - .117	.091 - .163
	Gray Iron		100 - 145	.013 - .020	.018 - .025	.018 - .030	.025 - .043	.028 - .051	.033 - .061	.051 - .086	.056 - .102	.066 - .122	.102 - .173

	Slotting Pocket Milling	Profiling Side Milling
Axial (ap)	up to 1.5xD	up to 2xD
Radial (ae)	1xD	5% - 15% of Dia.



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