SPEEDS & FEEDS

FEROCIOUS & FEROCIOUS 3x

- ***Max Spindle Speeds Possible***
- ***Dramatic Feed Rate Increase***
- ***Vertical Chip Ejection***
- ***Quiet Operation***
- ***Longer Tool Life***

- **THE IPT VALUES BELOW ARE MINIMUM STARTING POINTS - REDUCING IPT VALUES CAN CAUSE THE TOOL TO DEFLECT**

- **IF SFM CANNOT BE ACHIEVED DUE TO RPM LIMITS, PLEASE RUN AT MAXIMUM SAFE RPM AND MAINTAIN IPT RECOMMENDATION**

SPEEDS AND FEEDS		
TOOL DIAMETER	I.P.T (INCH PER TOOTH)	STARTING RPM
1/8	.001	12,000
3/16	.002	10,000
1/4	.003	10,000
5/16	.004	8,000
3/8	.005	8,000
1/2	.006	8,000
5/8	.007	6,000
3/4	.008	4,000
1	.010	4,000

MATERIAL	CUT TYPE		Starting SFM Range	Target SFM	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
					ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt
Aluminum Alloys	≥ 0.5xD to 1xD	Full Slot	395-786	590-1572	0.0009	0.0016	0.0024	0.0038	0.0046	0.0062	0.0070	0.0077	0.0088
	≤ 0.5xD	Profile			0.0012	0.0021	0.0031	0.0049	0.0059	0.0079	0.0090	0.0099	0.0113
	≤ 0.05xD	Finish Pass			0.0016	0.0028	0.0043	0.0068	0.0082	0.0110	0.0125	0.0137	0.0157
MATERIAL	**CUT TYPE**		**Starting SFM Range**	**Target SFM**	**1/8**	**3/16**	**1/4**	**5/16**	**3/8**	**1/2**	**5/8**	**3/4**	**1**
					ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt
Cast Aluminum	≥ 0.5xD to 1xD	Full Slot	395-786	590-1572	0.0008	0.0014	0.0022	0.0034	0.0041	0.0056	0.0063	0.0069	0.0079
(High Silicon)	≤ 0.5xD	Profile			0.0010	0.0018	0.0028	0.0044	0.0053	0.0072	0.0081	0.0089	0.0102
	≤ 0.05xD	Finish Pass			0.0014	0.0026	0.0038	0.0061	0.0074	0.0099	0.0112	0.0123	0.0141
MATERIAL	**CUT TYPE**		**Starting SFM Range**	**Target SFM**	**1/8**	**3/16**	**1/4**	**5/16**	**3/8**	**1/2**	**5/8**	**3/4**	**1**
					ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt
Copper Alloys / Brass	≥ 0.5xD to 1xD	Full Slot	395-786	590-1572	0.0008	0.0014	0.0022	0.0034	0.0041	0.0056	0.0063	0.0069	0.0079
	≤ 0.5xD	Profile			0.0010	0.0018	0.0028	0.0044	0.0053	0.0072	0.0081	0.0089	0.0102
	≤ 0.05xD	Finish Pass			0.0014	0.0026	0.0038	0.0061	0.0074	0.0099	0.0112	0.0123	0.0141
MATERIAL	**CUT TYPE**		**Starting SFM Range**	**Target SFM**	**1/8**	**3/16**	**1/4**	**5/16**	**3/8**	**1/2**	**5/8**	**3/4**	**1**
					ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt	ipt
Plastics	≥ 0.5xD to 1xD	Full Slot	395-786	590-1572	0.0017	0.0031	0.0046	0.0073	0.0088	0.0119	0.0135	0.0148	0.0169
	≤ 0.5xD	Profile			0.0022	0.0039	0.0059	0.0094	0.0113	0.0153	0.0173	0.0190	0.0217
	≤ 0.05xD	Finish Pass			0.0031	0.0055	0.0082	0.0130	0.0158	0.0212	0.0240	0.0264	0.0301

WARNING: TOO LOW OF AN RPM COUPLED WITH TOO MUCH FEED MIGHT CAUSE THE TOOL TO SHATTER

FOR BEST RESULTS:

- DIRECT MULTIPLE COOLANT NOZZLES AT THE END MILL TO ASSURE CONSTANT COOLING OF THE TOOL AND TO FLUSH CHIPS.
- THESE TOOLS ARE SPECIALLY DESIGNED FOR HI-SPEED MILLING OF ALUMINUM.
- THE FEEDS LISTED ARE STARTING POINTS. VARIATIONS OF THESE WILL DEPEND ON THE RADIAL & AXIAL DEPTH-OF-CUT & WORK PIECE CONDITIONS
- REDUCE FEED BY 50% ON LONG AND LONG REACH TOOLS OR WHEN AXIAL DEPTH OF CUT EXCEEDS 1.5XD
- RADIAL RUNOUT OF TOOL TIP UNDER (.0005") WHEN RUNNING TO ACHIEVE OPTIMUM FEEDS
- CGS RECOMMENDS STARTING AT LOWER END OF SFM VALUES AND INCREASING AT CONTROLLED LEVELS TO ACHIEVE OPTIMUM FEEDS & SURFACE FINISHES