

SPEEDS & FEEDS

GENERAL PURPOSE

- Plunge Operations: Reduce feed per tooth 50-65%
- Slotting Applications: Surface speeds (sfm) should be reduced approximately 20% of the lowest value
- Light radial depths of cut, the higher of the recommended surface speeds (sfm) should be used
- Greater Radial depths of cut (more than 0.5 X diameter), the lower range of surface speeds (sfm) should be used
- Axial Depth of Cut: Recommendations are not to exceed 1.5 times the diameter. If this condition exists, Conventional Milling should be used and feed per tooth should be reduced by 50%

MATERIAL	SPEED	END MILL DIAMETER FEED PER TOOTH (inches)		
		UP TO 1/4"	UP TO 1/2"	UP TO 1"
Aluminum/Aluminum Alloys	600-1300	.0002-.002	.002-.004	.004-.008
Brass/Soft Bronze	400-700	.0005-.002	.002-.003	.003-.005
Bronze/High Tensile	250-400	.001-.002	.002-.003	.004-.006
Copper/Copper Alloys	350-900	.005-.002	0.002	.002-.006
Iron-Cast (soft)	200-500	.0005-.002	.002-.003	.003-.008
Iron-Cast (hard)	100-450	.0003-.001	.0008-.002	.003-.005
Iron-Ductile	80-400	.0002-.001	.001-.002	.002-.006
Iron-Malleable	250-600	.001-.002	.001-.003	.003-.008
Magnesium/Magnesium Alloys	800-1400	.0005-.002	.002-.004	.004-.010
Monel/High Nickel Steel	150-300	.0002-.001	.001-.002	.002-.004
Nickel Base Hi-Temp Alloys	20-100	.0003-.0008	.0008-.001	.001-.002
Plastics	600-1200	.0006-.003	.003-.006	.006-.015
Plastics-Glass Filled	300-800	.0006-.003	.003-.004	.004-.012
Refractory Alloys	80-400	.0002-.001	0.001	.001-.002
Steel-Low Carbon	250-550	.0002-.001	.001-.003	.003-.007
Steel-Medium Carbon	100-250	.0004-.0015	.0015-.002	.002-.005
Steel-Up to Rc35	150-250	.0005-.001	.001-.002	.002-.003
Steel-Rc35 - Rc50	80-150	.0002-.0007	.0007-.001	.002-.003
Steel: Rc50- Rc60	25-120	.0002-.0005	.0005-.001	.002-.003
Steel-Mold	200-350	.0002-.001	.001-.002	.002-.006
Steel-Tool	100-300	.0002-.001	.001-.002	.002-.006
Stainless Steel-Soft	250-400	.0002-.001	.001-.002	.002-.006
Stainless Steel-Hard	50-250	.0002-.001	.001-.002	.001-.005
Titanium-Soft	120-350	.0002-.001	.001-.002	.002-.006
Titanium-Hard	30-150	.0002-.0005	.0005-.001	.001-.004

*** PLEASE NOTE: The above recommendations should be considered ONLY as a starting point;
"fine tuning" may be required in order to maximize performance ***