

FEEDS & SPEEDS

Feeds & speeds are a starting recommendation only. Factors such as machine, fixture and tooling rigidity, horsepower available, coolant application and others will affect the performance significantly. Please read machine operators instructions and use all safety shields and glasses before performing these operations.

MAT CLASS	MATERIAL	BRINELL	CARB SIDEMILLING		HSS SIDEMILLING		CARB KEYSEATING		HSS KEYSEATING	
			SFPM	IPT	SFPM	IPT	SFPM	IPT	SFPM	IPT
NON FERROUS SOFT	ALUMINUM ALLOY-WROUGHT	30/150	1000-2000	.004-.008	600-700	.002-.007	1200	.002-.006	600-700	.002-.007
	MAGNESIUM ALLOY	50/90	750-1500	.004-.008	400-500	.002-.007	1000	.002-.006	400-500	.002-.007
	NON METAL-PLASTIC	XXX	1500-3000	.004-.008	800-1000	.002-.007	1500	.002-.006	800-1000	.002-.007
	ZINC ALLOY-CAST	80/100	750-15000	.004-.008	400-500	.002-.007	750-1000	.002-.006	400-500	.002-.007
NON FERROUS HARD	ALUMINUM BRONZE	40/175	200-600	.005-.010	100-300	.002-.007	200-600	.002-.006	100-300	.002-.007
	BRASS ALLOY FREE CUTTING - LEADED	10/100	400-800	.003-.006	175-400	.002-.007	400-550	.002-.006	175-400	.002-.007
	NICKEL SILVER	10/100	200-400	.004-.008	70-150	.002-.007	200-400	.002-.006	70-150	.002-.007
	COPPER ALLOY TOUGH	40/200	200-500	.003-.006	80-175	.002-.007	200-500	.002-.006	80-175	.002-.007
CAST IRONS	DUCTILE CAST IRON-AUSTENITIC	120/275	75-150	.004-.008	40-60	.001-.005	75-150	.002-.006	40-60	.001-.005
	DUCTILE CAST IRON-FERRITIC	140/270	250-400	.002-.004	40-60	.001-.005	200-400	.002-.006	40-60	.001-.005
	DUCTILE CAST IRON-MARTENSITIC	270/440	250-300	.003-.006	40-60	.001-.005	150-350	.002-.006	40-60	.001-.005
	GREY-PEARLITIC	220/320	120-300	.002-.004	40-60	.001-.005	150-300	.002-.006	40-60	.001-.005
	GRAY-FERRITIC	110/240	250-425	.003-.006	40-60	.001-.005	220-410	.002-.006	40-60	.001-.005
	MALLEABLE CAST IRON-MARTENSIC	200/320	130-225	.002-.004	100-130	.001-.005	130-300	.002-.006	100-130	.001-.005
LOW CARBON STEELS	LOW AND MEDIUM CARBON-FREE MACH	100/250	250-500	.003-.006	50-70	.001-.005	200-500	.001-.005	50-70	.001-.005
	LOW AND MEDIUM CARBON-WROUGHT	100/375	200-400	.002-.004	30-40	.001-.005	200-400	.001-.005	30-40	.001-.005
MEDIUM STRENGTH STEEL	LOW AND MEDIUM CARBON ALLOY-FREE	100/275	200-400	.002-.004	15-45	.001-.005	200-400	.001-.005	15-45	.001-.005
	LOW AND MEDIUM CARBON ALLOY-STEEL	85/375	150-300	.002-.004	30-35	.001-.005	130-330	.001-.005	30-35	.001-.005
	STAINLESS 400	135/325	200-400	.002-.004	15-45	.0005-.002	135-375	.001-.005	15-45	.0005-.002
	STAINLESS 400-FREE MACHINING	135/275	250-500	.003-.006	15-45	.0005-.002	250-500	.001-.005	15-45	.0005-.002
HIGH STRENGTH	HIGH STRENGTH STEEL-WROUGHT-TOOL	175/400	75-150	.003-.006	10-15	.0005-.002	75-200	.001-.004	10-15	.0005-.002
HIGH TEMP ALLOYS	HIGH TEMP NICKEL/IRON BASE ALLOY	140/300	50-150	.002-.004	5-20	.0005-.002	50-150	.001-.004	5-20	.0005-.002
	STAINLESS STEEL-300 SERIES	135/375	75-150	.002-.004	15-25	.0005-.002	75-175	.001-.004	15-25	.0005-.002
	STAINLESS-PH SERIES	150/440	75-150	.002-.004	15-25	.0005-.002	75-175	.001-.004	15-25	.0005-.002
	TITANIUM ALLOY	110/380	100-200	.002-.004	15-25	.0005-.002	75-200	.001-.004	15-25	.0005-.002

RPM = SFPM X 3.82 / CUTTER DIAMETER

RPM IPM = IPT X RPM X # TEETH

IPT = INCHES PER TOOTH

IPM = INCHES PER MINUTE

RPM = ROTATION PER MINUTE

SFPM = SURFACE FEET PER MINUTE

CUTTER DIAMETER = DIAMETER OF CUTTER IN INCHES