

RECOMMENDED SPEEDS & CUTTING RATES						BROADBAND & BLOCKBUSTER			
Stock Dimensions Tooth Pitch	Up to 1"		From 1" to 3"		From 3" to 6"		Over 6"		
	10-14, 8-12		8-12, 6-10, 5-8		5-8, 4-6, 3-4		3-4, 2-3, 1.5-1.9, 1.1-1.4, 8-1.0		
Material (Annealed)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	
Carbon Steels:									
1008-1013	250	8 - 10	275	9 - 12	280	12 - 15	250	9 - 12	
1015-1018	250	8 - 10	275	9 - 12	250	12 - 15	230	9 - 12	
1048-1065	200	5 - 7	200	5 - 7	175	8 - 10	150	6 - 8	
1065-1095	200	4 - 6	200	5 - 7	150	6 - 8	120	6 - 8	
Free Machining Steels:									
1108-1111	300	9 - 11	330	12 - 14	275	13 - 15	220	11 - 14	
1112-1113	300	8 - 11	330	11 - 13	275	12 - 15	220	12 - 15	
1115-1132	300	7 - 10	330	10 - 13	275	13 - 16	220	11 - 14	
1137-1151	275	6 - 8	250	8 - 10	250	8 - 11	200	7 - 10	
1212-1213	300	8 - 10	320	11 - 13	300	13 - 15	255	11 - 14	
Manganese Steels:									
1320-1330	250	5 - 7	250	5 - 8	200	8 - 11	175	7 - 10	
1335-1345	250	5 - 7	225	5 - 7	200	7 - 9	175	5 - 8	
Nickel Steels:									
2317	270	4 - 5	270	4 - 6	250	5 - 7	230	4 - 6	
2330-2345	220	2 - 3	220	3 - 5	190	3 - 5	170	3 - 5	
2512-2517	200	2 - 3	200	3 - 5	160	4 - 6	150	4 - 6	
Nickel Chrome Steels:									
3115-3130	260	4 - 6	260	5 - 7	230	5 - 7	225	5 - 7	
3135-3150	220	4 - 6	200	4 - 7	180	6 - 8	150	5 - 8	
3310-3315	200	3 - 4	180	4 - 5	180	5 - 7	160	4 - 6	
Molybdenum Steels:									
4017-4024	300	3 - 5	270	4 - 7	250	6 - 8	220	5 - 8	
4032-4042	300	3 - 5	270	4 - 7	250	6 - 8	230	5 - 8	
4047-4068	250	3 - 5	220	4 - 6	200	5 - 7	180	3 - 5	
Chrome Moly Steels:									
4130-4140	280	4 - 6	250	5 - 8	250	8 - 10	220	6 - 8	
4142-4150	230	3 - 5	200	4 - 6	200	5 - 7	170	4 - 6	
Nickel Chrome Moly Steels:									
4317-4320	250	3 - 5	225	4 - 6	200	5 - 7	170	4 - 6	
4337-4340	230	3 - 4	200	4 - 5	200	4 - 6	170	4 - 5	
8615-8627	250	4 - 5	230	6 - 7	230	6 - 8	200	6 - 7	
8630-8645	250	3 - 5	230	4 - 6	230	5 - 7	180	4 - 6	
8647-8660	220	2 - 4	200	3 - 5	200	4 - 6	150	3 - 5	
8715-8750	250	3 - 5	220	4 - 6	220	5 - 7	180	4 - 6	
9310-9317	200	1 - 3	160	2 - 3	160	2 - 4	150	2 - 3	
9437-9445	250	4 - 5	230	4 - 5	230	5 - 6	180	4 - 5	
9747-9763	250	2 - 4	230	3 - 5	200	4 - 6	180	3 - 5	
9840-9850	240	4 - 5	220	4 - 6	200	5 - 7	180	4 - 6	
Nickel Moly Steels:									
4608-4621	250	3 - 5	220	5 - 6	220	6 - 7	200	5 - 6	
4640	220	3 - 5	200	4 - 6	200	5 - 7	170	4 - 6	
4812-4820	200	3 - 5	180	3 - 5	180	4 - 6	160	4 - 5	
Chrome Steels:									
5045-5046	280	4 - 6	250	5 - 7	250	8 - 10	200	7 - 8	
5120-5135	280	4 - 6	250	6 - 7	240	7 - 8	180	5 - 8	
5140-5160	250	3 - 5	230	4 - 6	230	5 - 7	200	4 - 6	
50100-52100	180	2 - 4	160	3 - 5	150	4 - 6	100	3 - 5	
Chrome Vanadium Steels:									
6117-6210	225	4 - 5	225	5 - 7	200	6 - 8	170	5 - 7	
6145-6152	225	3 - 4	200	4 - 5	200	5 - 6	150	4 - 5	
Silicon Steels:									
9255-9260	200	2 - 4	180	3 - 5	180	3 - 5	150	3 - 5	
9261-9262	200	1 - 3	160	2 - 3	160	2 - 4	150	2 - 3	
High Speed Tool Steels:									
T-1, T-2	130	1 - 2	110	2 - 3	100	2 - 4	90	2 - 3	
T-4, T-5	110	1 - 2	100	1 - 2	90	2 - 3	80	1 - 2	
T-6, T-8	110	1 - 2	100	1 - 2	80	1 - 2	70	1 - 2	
T-15	80	1	80	1	70	1	50	1	
M-1	150	1 - 3	140	2 - 4	130	3 - 5	110	2 - 4	
M-2, M-3	120	1 - 2	110	2 - 3	100	3 - 4	80	2 - 3	
M-4, M-10	100	1 - 2	90	1 - 2	80	1 - 3	60	1 - 2	

RECOMMENDED SPEEDS & CUTTING RATES **BROADBAND & BLOCKBUSTER**

Stock Dimensions Tooth Pitch	Up to 1"		From 1" to 3"		From 3" to 6"		Over 6"	
	10-14, 8-12		8-12, 6-10, 5-8		5-8, 4-6, 3-4		3-4, 2-3, 1.5-1.9, 1.1-1.4, 8-1.0	
Material (Annealed)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)
Die Steels:								
A-2,	210	2 - 3	200	3 - 4	190	3 - 4	180	2 - 3
D-2, D-3	110	1 - 2	100	1 - 2	90	1 - 2	80	1 - 2
D-7	90	1	80	1	70	1	70	1
O-1, O-2	240	3 - 4	210	4 - 5	190	5 - 6	170	4 - 5
O-6	230	3 - 4	200	4 - 6	180	5 - 7	150	4 - 6
Hot Work Steels:								
H-12, H-13, H-21	150	2 - 4	125	3 - 5	125	2 - 4	125	2 - 4
H-22, H-24, H-25	150	1 - 3	125	1 - 3	125	1 - 3	125	1 - 3
Shock Resisting Tool Steels								
S-1	220	2 - 4	180	3 - 5	165	3 - 5	150	2 - 4
S-2, S-5	170	1 - 3	150	2 - 4	120	2 - 4	100	1 - 3
Special Purpose Tool Steels								
L-6	200	2 - 4	180	3 - 5	170	3 - 5	150	2 - 4
L-7	200	2 - 4	180	3 - 5	150	3 - 5	100	2 - 4
Stainless Steels:								
201, 202, 302, 304	120	2 - 4	100	2 - 4	100	2 - 4	100	1 - 3
303, 303F	140	2 - 4	120	2 - 4	100	3 - 5	100	2 - 4
308, 309, 310, 330	90	1	70	1	60	2	60	1
314, 316, 317	90	1	80	1	70	2	60	1
321, 347	130	1 - 3	110	1 - 3	100	2 - 4	80	1 - 3
410, 420, 420F	150	1 - 3	130	1 - 3	120	2 - 4	100	1 - 3
416, 430F	200	3 - 5	180	4 - 6	170	5 - 7	150	4 - 6
430, 446	100	1 - 3	90	2 - 4	80	2 - 4	80	1 - 3
440 A,B,C	120	1 - 3	10	1 - 3	90	2 - 4	70	1 - 3
440F, 443	150	1 - 3	130	1 - 3	120	2 - 4	100	1 - 3
17-4PH, 17-7PH	100	2 - 3	90	2 - 4	80	3 - 4	80	2 - 3
A-7	100	1 - 2	100	1 - 2	100	2 - 3	100	2 - 3
Beryllium Copper #25								
BHN 100-120	350	4 - 6	300	5 - 7	275	6 - 8	225	5 - 7
BHN 220-250	250	2 - 4	225	3 - 5	200	4 - 6	175	3 - 5
BHN 310-340	200	1 - 2	160	1 - 2	140	2 - 3	100	1 - 2
Nickel Base Alloys:								
Monel	100	1 - 2	100	1 - 2	80	1 - 2	60	1
R Monel	140	2 - 3	140	2 - 4	125	2 - 4	75	2 - 3
K Monel	100	1	80	1	60	1	60	1
KR Monel	100	1 - 3	90	1 - 3	80	1 - 3	60	1 - 2
Inconel	110	1 - 2	100	1 - 3	80	1 - 3	80	1 - 2
Inconel X	90	1	80	1	70	1	60	1
Hastelloy A	120	1 - 2	100	1 - 2	85	2 - 3	75	1 - 2
Hastelloy B	110	0 - 1	100	1 - 2	90	1 - 2	75	0 - 1
Hastelloy C	100	0 - 1	90	0 - 1	70	0 - 1	60	0 - 1
Rene 41	90	1	90	1	90	1 - 2	90	1 - 2
Udimit	100	1	90	1 - 2	90	1 - 2	90	1 - 2
Waspalloy	90	1	90	1 - 2	90	1 - 2	90	1 - 2
Titanium	100	1 - 2	100	2 - 3	100	2 - 3	100	2 - 3
Titanium Alloys:								
TI-4AL-4MO Alpha Beta Alloy	100	0 - 1	90	0 - 1	80	0 - 1	70	0 - 1
TI-140A 2CR-2MO	100	0 - 1	90	0 - 1	80	0 - 1	60	0 - 1
TI-150A	100	0 - 1	90	0 - 1	80	0 - 1	60	0 - 1
MST-6AL-4V	100	0 - 1	90	0 - 1	80	0 - 1	60	0 - 1
99% Pure Titanium	100	0 - 1	90	0 - 1	80	0 - 1	60	0 - 1